COLOR VIDEO CAMERA
CAMERA ADAPTOR
1.5INCH ELECTRONIC VIEWFINDER
ZOOM LENS

DXC-537
CA-537
DXF-501
VCL-916BY

VOL.1 Revised-1
GENERAL DESCRIPTION
SERVICE INFORMATION
ALIGNMENT

SONY
SONY
3CCD
REMOTE

SONY®
SERVICE MANUAL

X-RAY RADIATION WARNING

Be sure that parts replacement in the high voltage block and adjustments made to the high voltage circuits are carried out precisely in accordance with the procedures given in this manual.

SAFETY RELATED COMPONENT WARNING

Components identified by shading and ⚠ marked on the schematic diagrams and parts list are critical to safe operation. Replace these components with SONY parts whose part numbers appear as shown in this manual or in supplements published by SONY.

Warning—This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Important—To insure that the complete system (including this peripheral) is capable of complying with the FCC requirements, it is recommended that the user make sure that the individual equipment of the complete system has a label with one of the following statements.
"This equipment has been tested with a Class A Computing Device and has been found to comply with Part 15 of FCC rules."
—or—
"This equipment complies with the requirements in Part 15 of FCC rules for a Class A Computing Device."
—or equivalent.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a computing device pursuant to Subpart J of Part 15 of FCC Rules.

For the customers in Canada
This apparatus complies with the Class A limits for radio noise emissions set out in radio interference regulations.

Pour les utilisateurs au Canada
Cet appareil est conforme aux normes Class A , pour bruits radioelectriques. Tel que specifier dans le reglement sur le brouillage radioelectrique.

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COLOR VIDEO CAMERA

SONY
3CCD
VIDEO OUT
REMOTE
VF
LENS

SPECIFICATIONS

Camera Head (DXC-537/537P)

Image device	Interline-transfer CCD, 3-chip
Picture elements	768 × 493 (h/v) (NTSC) 786 × 581 (h/v) (PAL)
Sensing area	8.8 mm × 6.6 mm (equivalent to a $^2/_3$-inch pickup tube)
Built-in filters	1: 3200K 2: 5600 K + $^1/_4$ ND 3: 5600 K 4: 5600 K + $^1/_{16}$ ND
Lens mount	Bayonet mount
Signal system	EIA standards, NTSC color system (for DXC-537) CCIR standards, PAL color system (for DXC-537P)
Scanning system	525 lines, 2:1 interlace, 30 frames/sec. (NTSC) 625 lines, 2:1 interlace, 25 frames/sec. (PAL)
Scanning frequency	Horizontal: 15.734 kHz (NTSC) 15.625 kHz (PAL) Vertical: 59.94 Hz (NTSC) 50.00 Hz (PAL)
Sync system	Internal External with the BS or VBS signal supplied to the GEN LOCK IN connector (when the CA-537/537P, CA-325A/325AP or CA-325B is used) or the reference signal input to the VTR/CCU/CMA connector from the GEN LOCK IN connector of the CCU-M3/M3P/M7/M7P (when the CA-537/537P is used)
Horizontal resolution	700 lines (center)
Minimum illumination	13 lux with F1.8, +18 dB 7.5 lux with F1.4, +18 dB
Sensitivity	2000 lux with F8.0 (Typical) at 3200 K
Gain selection	0 dB, 9 dB or 18 dB, selectable

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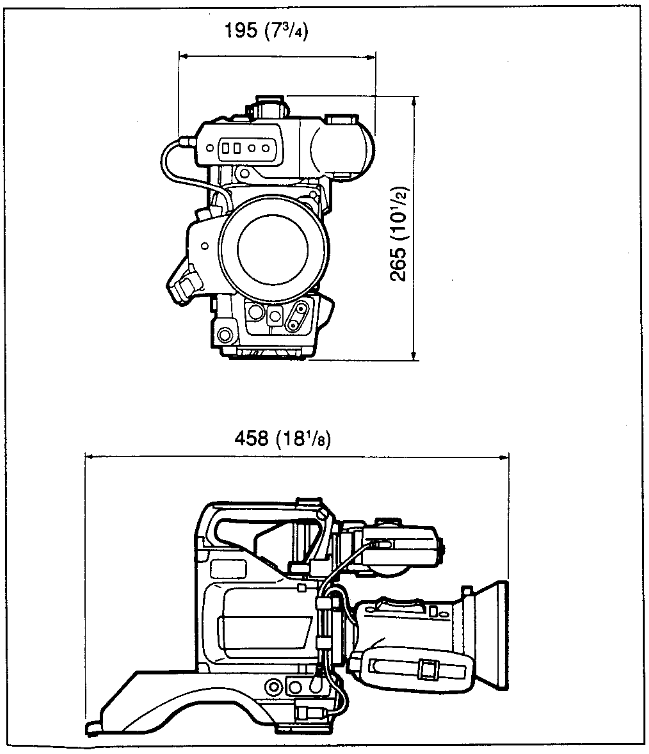
Video output	Composite signal: 1.0 Vp-p, sync negative, 75Ω unbalanced Y/C separate signal: Y: 1.0 Vp-p, sync negative, unbalanced C: burst level 0.286 Vp-p (NTSC) 0.3 Vp-p (PAL) without sync
Signal to noise ratio	62 dB (NTSC, Typical) 60 dB (PAL, Typical)
Registration	0.05% for Zone I 0.05% for Zone II 0.05% for Zone III
Inputs/Outputs	VIDEO OUT: BNC-type LENS: 2/3-inch lens connector (12-pin) VF: 8-pin REMOTE: 10-pin
Power requirements	12 V DC
Power consumption	9.5 W
Operating temperature	–10°C to +45°C (14°F to 113°F)
Storage temperature	–20°C to +60°C (–4°F to 140°F)
Weight	2.2 kg (4 lb 14 oz)
Dimensions	See the illustrations below. Unit: mm (inches)

Dimensions



Carrying Case (LC-421)

Weight	About 7.7 kg (15 lb 7 oz)
Dimensions	About 790 × 440 × 340 mm (w/h/d) (31-1/8 × 17-3/8 × 13-1/2 inches)

Accessories Supplied

CCZQ-A2 camera cable (with Z-type 26-14-pin connectors) (supplied with the DXC-537K/537PK/537L/537PL only) (1)
VCL-916BY zoom lens (supplied with the DXC-537K/537PK only) (1)
DXF-501/501CE electronic viewfinder (supplied with the DXC-537K/537PK/537L/537PL only) (1)
LC-421 carrying case (supplied with the DXC-537K/537PK/537L/537PL only) (1)
VCT-14 tripod attachment (supplied with the DXC-537K/537PK/537L/537PL only) (1)
Lens cap (1)
Chart for flange focal length adjustment (1)

Design and specifications are subject to change without notice.

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SECTION 1
INTRODUCTION

1-1. INTRODUCTION

Choosing from NTSC or PAL Systems

The following explains the differences between the NTSC and PAL systems regarding accessory selection for the DXC-537 series camera.

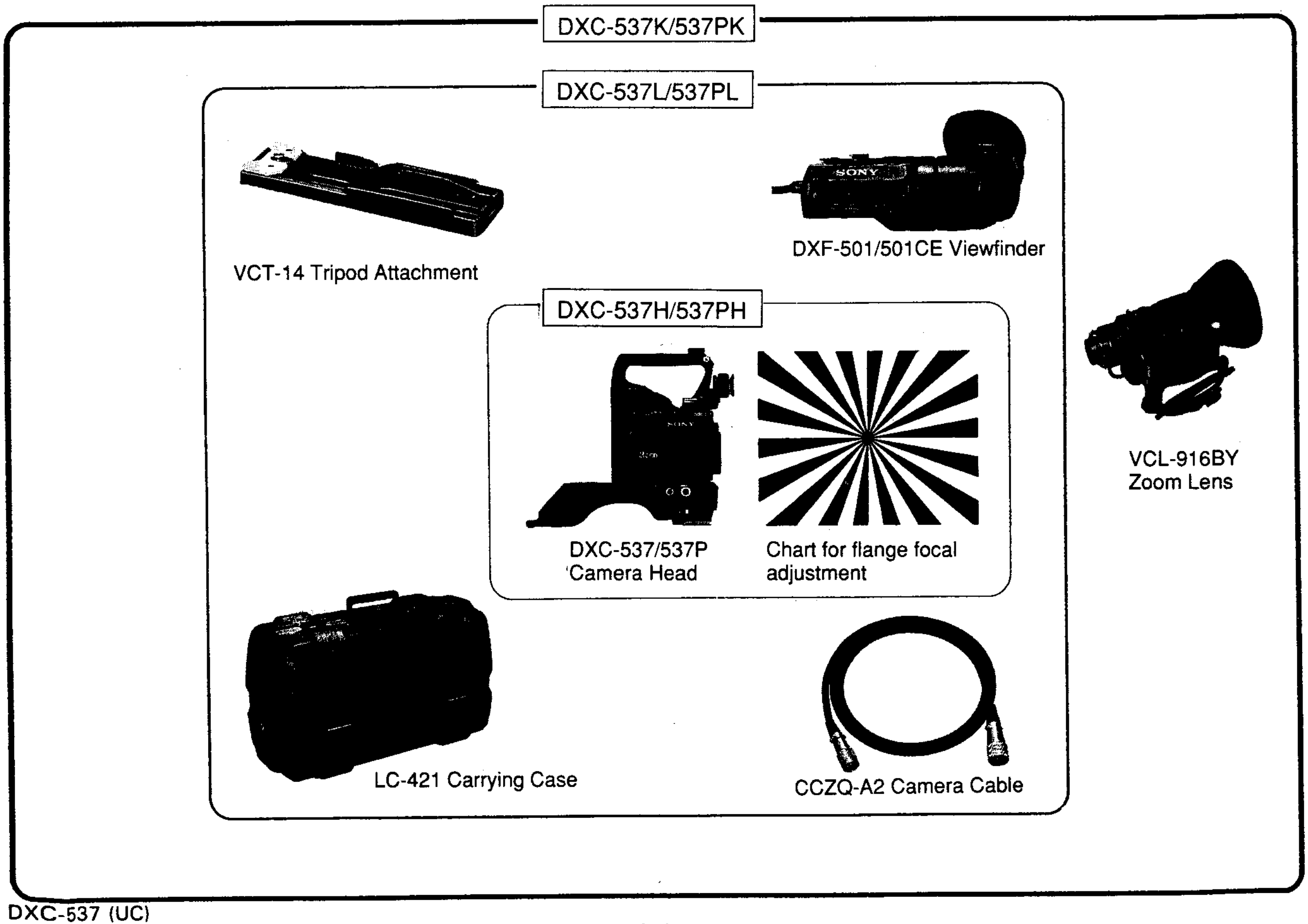
Some PAL components can operate on NTSC equipment and vice-versa. In general, however, this is not the case. You must use the type of equipment and accessories that matches the signal system of your camera. Use the DXC-537 series camera within the NTSC color system, and use the DXC-537P series camera within the PAL system. See the table to the right for other possible component combinations.

The following illustration depicts which components you can use with each piece of equipment. The components in the outermost box can be used with all equipment and those in the innermost box can be used with only a few.

NTSC/PAL Component Combinations

Model **Composition**	DXC-537K/ 537PK	DXC-537L/ 537PL	DXC-537H/ 537PH
DXC-537/537P Camera Head	Yes	Yes	Yes
VCL-916BY Zoom Lens		No	No
DXF-501/501CE Viewfinder		Yes	
LC-421 Carrying Case			
CCZQ-A2 Camera Cable			
VCT-14 Tripod Attachment			
Chart for flange focal length adjustment			Yes

DXC-537 Series Usable Accessories


DXC-537K/537PK
DXC-537L/537PL
VCT-14 Tripod Attachment
DXF-501/501CE Viewfinder
DXC-537H/537PH
VCL-916BY
Zoom Lens
DXC-537/537P
Camera Head
Chart for flange focal
adjustment
LC-421 Carrying Case
CCZQ-A2 Camera Cable

Notes on Using Accessories with the DXC-537 Series Camera

- If you use the CA-537/537P Camera Adaptor (optional) with this camera, operate the camera according to the instructions in this manual.
- If you use the CA-327/327P Camera Adaptor (optional), operate the camera according to the instructions that come with the adaptor.
- If you use a zoom lens other than the VCL-916BY Zoom Lens, operate the camera according to the instructions that come with the lens. (For further information on accessories, see “Optional Accessories and Recommended Equipment”, on page 1-69.)

On Using and Storing the Camera

This section explains how to safely use, store and clean the camera.

When setting up the camera

- Do not attach the zoom lens without reading “Attaching the Zoom Lens and Optional Filter” (page 1-14). Attaching the lens incorrectly may damage the lens.
- Do not directly connect the camera to an AC power line. Use the recommended camera adaptor or use a 12 volt DC power source.
- Do not block air circulation about the camera to prevent internal heat build-up.

When operating the camera

- Avoid rough handling or mechanical shock.
- Avoid strong magnetic fields to prevent signal distortion.
- Avoid operating the camera in environments that exceed the temperature range of –10°C to +45°C (14°F to 113°F).
- Do not point the viewfinder directly at the sun.
- Do not grip the camera by the viewfinder.

When storing and shipping the camera

- Cover the lens with the supplied lens cap when you do not plan to use the video camera for an extended period of time.
- When you transport the camera, repack it as it was originally shipped. Do not discard the packing carton. This affords maximum protection whenever you ship the camera. Do not ship or transport the camera in the carrying case alone.
- Store the camera with the viewfinder moved fully in the direction opposite the viewfinder barrel and the lock ring tightened.

When cleaning the camera

- Clean the cabinet, panel, and controls with a soft, dry cloth or a cloth moistened with a mild detergent solution.
- Do not use any type of solvent, such as alcohol or benzine which might damage the finish.

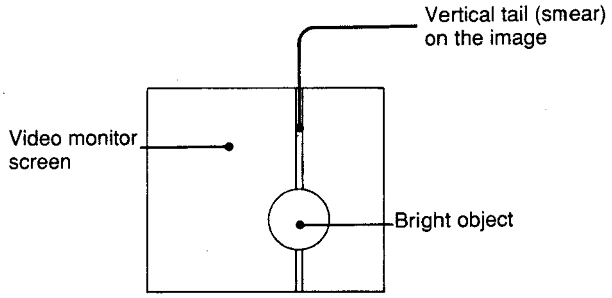
If you have any questions about this camera, contact your authorized Sony dealer.

Managing Hyper-Sensitivity in the CCD Image Sensor

Because of the high sensitivity of the CCD Image Sensors, the following phenomena may appear on the monitor screen while you are using the DXC-537 series color camera. These phenomena do not mean that there is anything wrong with the camera.

Vertical Smear

Smear tends to happen when an extremely bright object such as an electric light, fluorescent lamp, sunlight, or strong reflection is being shot.



White Dots

White dots may appear in the video output if the camera is used at very high temperatures.

Aliasing

Aliasing may occur when you shoot fine stripes or straight lines. The lines appear jagged.

Poor Pictures

You may not get a clear picture if the GAIN selector is set to 18 dB when you are using the electronic shutter. Use the electronic shutter under lighting conditions where you can obtain a clear picture with the GAIN selector set to the 0 or 9 dB position.

Features of the DXC-537 Series Camera

Hyper HAD™ Sensor CCD Chip Design

The Hyper HAD™ Sensor CCD Chip design employs three $^2/_3$-inch CCD (Charge Coupled Device) images each having a total of about 380,000 (NTSC) or 460,000 (PAL) effective picture elements. The CCD offers better picture quality over tube type pick-up devices by providing:

- higher resolution and sensitivity
- lower lag, higher image burning resistance, and no deflection distortion
- less vibration and magnetic field distortion
- higher S/N ratio that allows you to raise the video output level by 9 dB or 18 dB to get a clear picture under low light conditions

Maximum System Versatility

By attaching optional equipment you can expand the usability of the camera:

- the CA-537/537P Camera Adaptor enables you to control the camera via a camera control unit or VTR
- the CA-325A/325AP or 325B enables multiple outputs of RGB format signal
- a Hi8 format videocassette recorder turns your unit into a camcorder
- the CCU-M7/M7P Camera Control Unit allows you to use the camera as a studio camera
- the various kinds of power sources (battery, AC, and DC) allow you to use the camera under many power situations

Electronic Shutter

The Clear Scan™ Function and the built-in electronic shutter ensure better pictures:

- the Clear Scan™ Function reduces the stripe noise which appears when a CRT screen (such as the screen of a personal computer) is shot by the camera
- the electronic shutter lets you shoot fast moving objects with little blurring

Automatic Adjustment and Memory Functions

The camera automatically adjusts white/black balance as well as camera settings, and stores the adjustments for later use.

Viewfinder Displays

So you don't have to take your eye off what you are shooting, the viewfinder displays adjustment indications and warnings. The viewfinder shows the following four displays:

- Characters:
  show switch settings, warning indications, and the title characters to be superimposed
- Zebra Pattern:
  appears on the portion of the screen where the video output is about 70 to 80 IRE (for NTSC) or 490 to 560 mV (for PAL). This pattern acts as a reference when you manually adjust the iris
- Safety Zone Marker and Center Marker:
  indicate the safety zone for shooting and the center of the picture
- REC Indicator:
  flashes if the connected VTR malfunctions

NOTE

You can connect the following CA-327/327P series camera adaptors to the DXC-537/537P:
CA-327 serial No. 10271 and higher for the DXC-537.
CA-327P serial No. 40101 and higher for the DXC-537P.

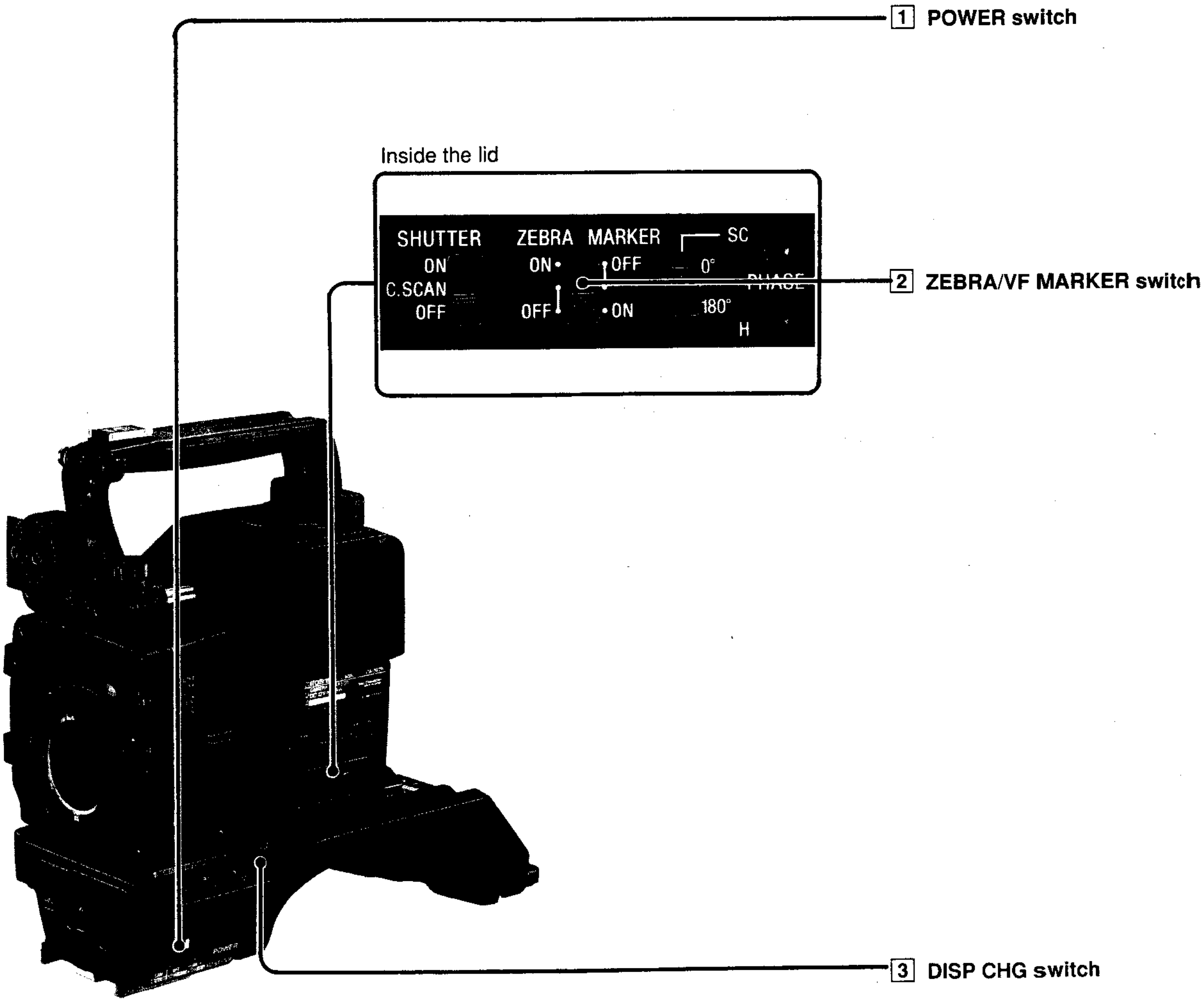
1-2. SET-UP

Location and Function of Parts

DXC-537/537P Camera Head

The DXC-537/537P Camera Head is the modular core of this multipurpose camera system. Depending on your purpose, connect VTRs and camera control units to it via the CA-537/537P or CA-327/327P camera adaptor.

Camera Head Power Supply and Indications


1 POWER switch
Inside the lid
SHUTTER
ON
C.SCAN
OFF
ZEBRA
ON
OFF
MARKER
OFF
ON
SC
0°
180°
PHASE
H
2 ZEBRA/VF MARKER switch
3 DISP CHG switch

1 POWER switch

OFF: Turns the camera off.

ON SAVE: Select to save power. When you press the VTR start button, there is a delay before recording starts, but the amount of power consumed in this mode is less than when the camera is in stand-by mode (STBY).

ON STBY: Select for a quick start. When you press the VTR start button, recording starts immediately. In this mode power continues to be consumed while the drum heads rotate.

2 ZEBRA/VF MARKER switch

ZEBRA: Set this switch to ON to display the zebra pattern on the viewfinder screen for manual iris adjustment. The zebra pattern appears in the picture where the video level is about 70 to 80 IRE (for NTSC) or about 490 to 560 mV (for PAL). (See page 1-49.)

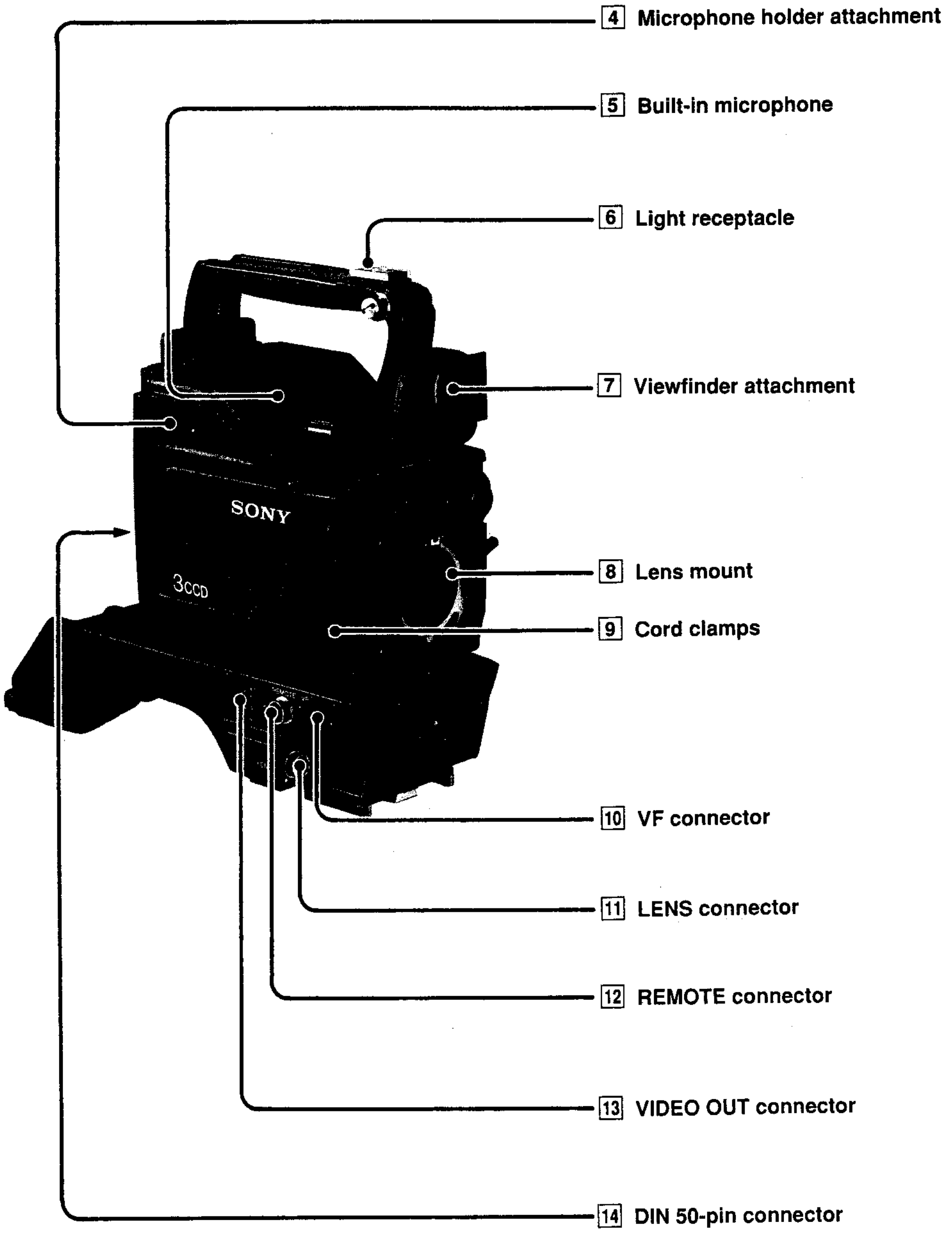
VF MARKER:

- **ON:** Set this switch to make the center marker and safety zone borders appear in the viewfinder. The safety zone is 90% of the screen area.
- **OFF:** Both the VF marker and zebra pattern disappear from the viewfinder.

3 DISP CHG (display change) switch

Push this switch to change the character display mode of the viewfinder screen (See page 1-33.)

Camera Head Attachments and Input/Output Connectors


4 Microphone holder attachment
5 Built-in microphone
6 Light receptacle
7 Viewfinder attachment
8 Lens mount
9 Cord clamps
10 VF connector
11 LENS connector
12 REMOTE connector
13 VIDEO OUT connector
14 DIN 50-pin connector
SONY
3CCD

[4] **Microphone holder attachment**
Attach an optional CAC-12 microphone holder here (See page 1-24.)

[5] **Built-in microphone**
The built-in microphone functions automatically when a portable VTR is connected to the camera. This allows you to make a sound recording along with the video recording.
When an external microphone is connected to the MIC IN connector on the CA-537/537P camera adaptor, the built-in microphone does not function. We recommend you use a uni–directional external microphone to get a better sound recording.

[6] **Light receptacle**
This allows you to attach a video light or other accessories.

[7] **Viewfinder attachment**
Attach the DXF-501/501CE viewfinder here.

[8] **Lens mount**
Attach the VCL-916BY zoom lens and related equipment here.

[9] **Cord clamps**
Secures the viewfinder and lens cords.

[10] **VF connector**
Connect the viewfinder cord here.

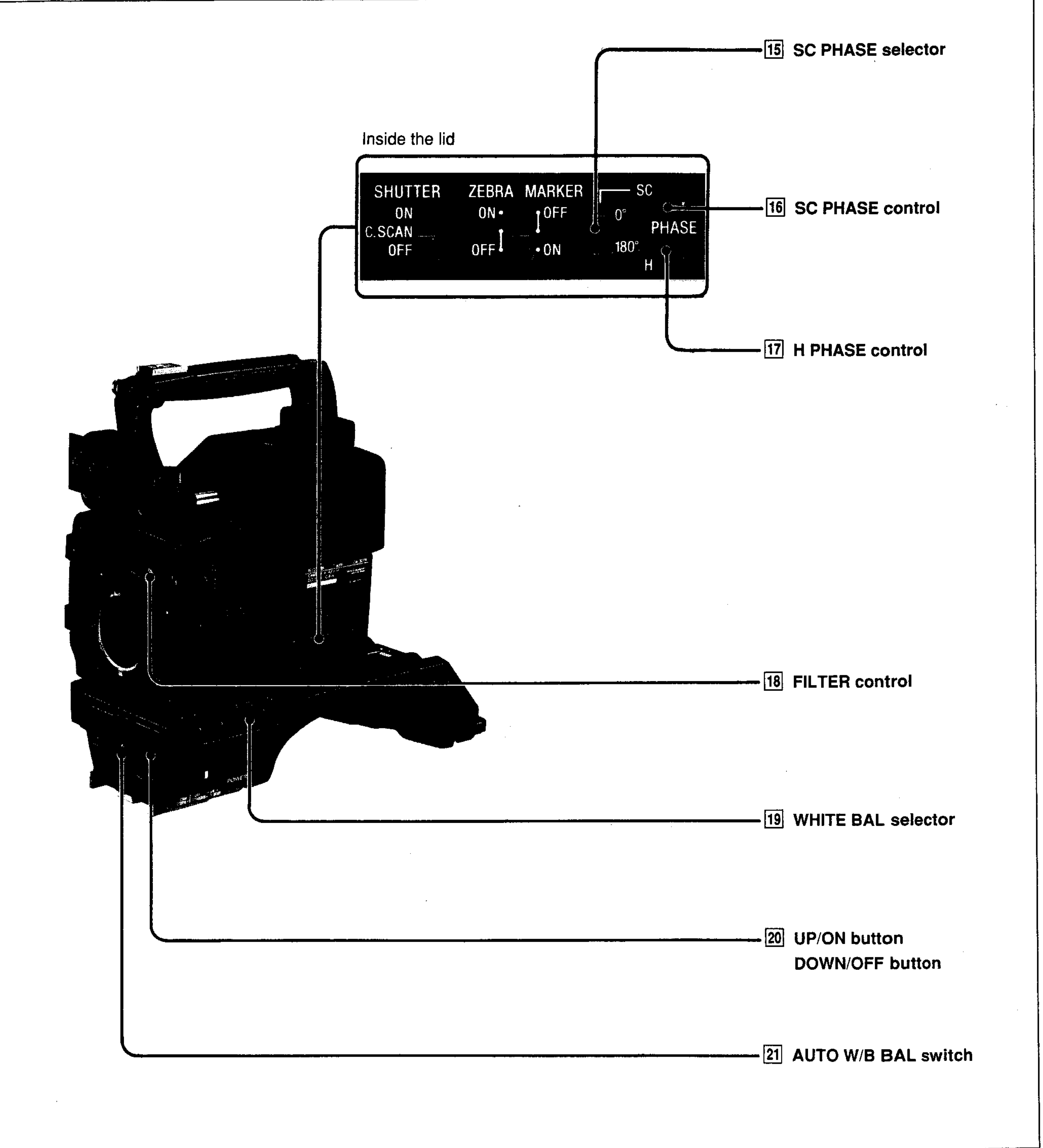
[11] **LENS connector (12-pin)**
Connect the lens cord here.

[12] **REMOTE connector (10-pin)**
To operate this camera from an RM-M7G Camera Remote Control Unit, connect the camera to the remote control unit via this connector. Make sure the CAMERA SELECT switch on the bottom of the RM-M7G is set to "1", the factory preset position.

[13] **VIDEO OUT (output) connector (BNC connector)**
To check the picture of the camera you are shooting, connect to the input connector of a video monitor. Also you can connect to the video input of a VTR. Title characters displayed on the viewfinder screen output from this connector.

[14] **DIN 50-pin connector**
Connect to the 50-pin connector of the camera adaptor or EVV-9000/9000P.

Camera Head Switches and Controls


15 SC PHASE selector
Inside the lid
SHUTTER
ON
C.SCAN
OFF
ZEBRA
ON
OFF
MARKER
OFF
ON
SC
0°
180°
PHASE
H
16 SC PHASE control
17 H PHASE control
18 FILTER control
19 WHITE BAL selector
20 UP/ON button
DOWN/OFF button
21 AUTO W/B BAL switch

15 SC (subcarrier) PHASE selector
Switch this selector to 0° or 180° to roughly adjust the SC phase difference between the gen-lock input and the video output signals when using two or more cameras simultaneously. (See page 1-51.)

16 SC (subcarrier*) PHASE control
Use a small screwdriver to fine tune the SC phase. Do this after roughly adjusting the SC phase using the SC PHASE selector (page 1-51). Do this adjustment when you are using two or more cameras simultaneously.

17 H (horizontal) PHASE control
Use a small screwdriver to adjust the H phase difference between the gen-lock input and video output signals. (See page 1-51.)

18 FILTER selector
Selects the appropriate filter according to lighting conditions.

19 WHITE BAL (White balance memory) selector

A or B: Select A or B to make the camera use the white balance setting stored in memory position A or B.

PRE: Set to PRE when there is no time to adjust the white balance. This function provides a factory-preset white balance value for a color temperature of 3200K for the selected FILTER selector position.

20 UP/ON button and DOWN/OFF button
Press either of these buttons with the DISP CHG switch to make one of the following six settings to:

ⓐ Set the title characters (See page 1-52.)
ⓑ Turn on/off the LOW LIGHT indication (See page 1-31.)
ⓒ Adjust the reference level of the automatic iris (See page 1-35.)
ⓓ Adjust the detail level (See page 1-48.)
ⓔ Adjust the master pedestal level (See page 1-41.)
ⓕ Adjust the shutter speed (See page 1-42.)
ⓖ Select CLEAR SCAN (See page 1-43.)

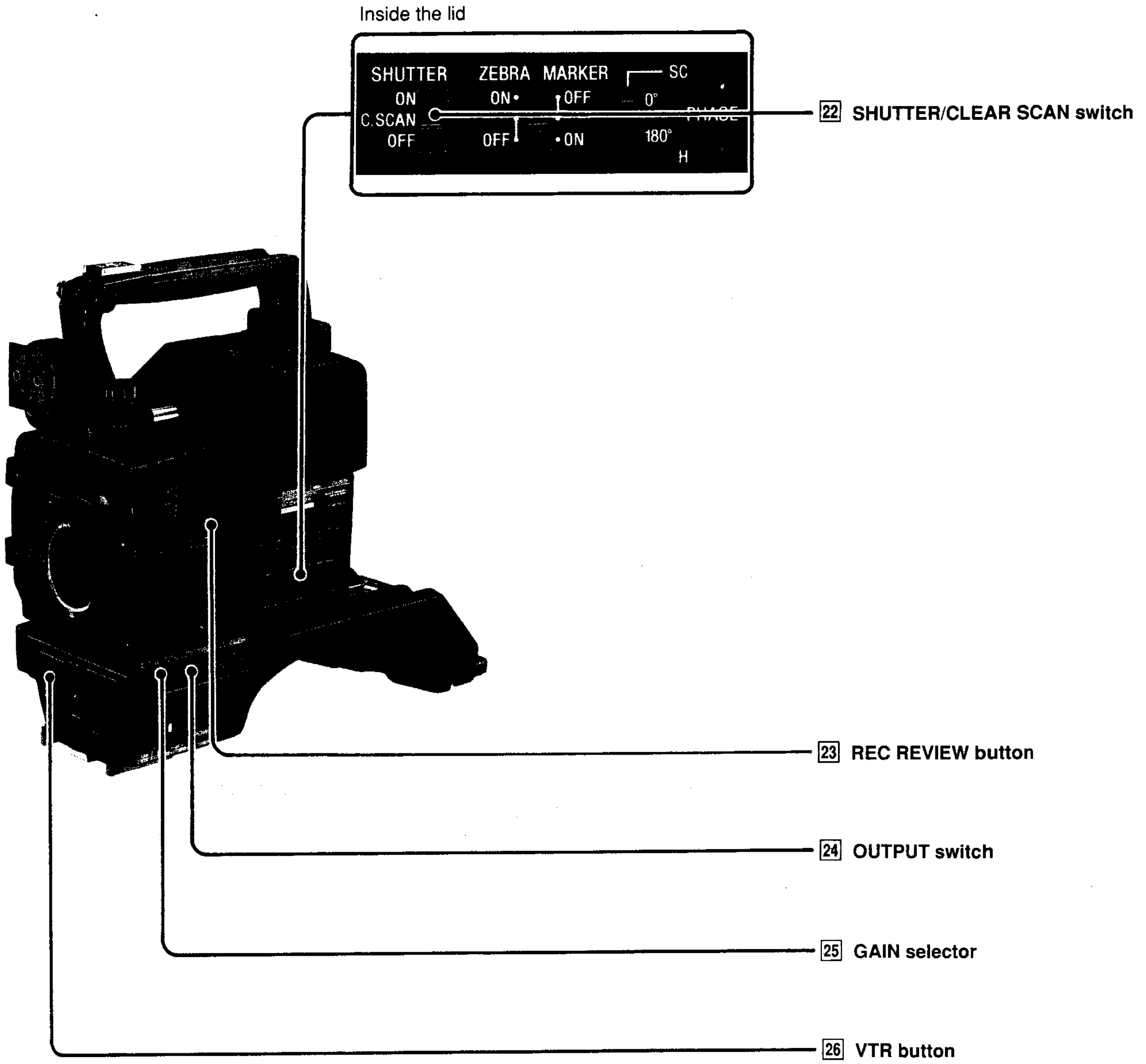
21 AUTO W/B BAL (automatic white/black balance adjustment) switch
Select "A" or "B" with the WHITE BAL selector, and push this switch to WHT to automatically adjust white balance. To automatically adjust black balance, push this switch to BLK. You can do this irrespective of the WHITE BAL selector setting. The setting value is stored in the camera's memory. When you release this switch, the switch returns to the center position automatically. (See pages 1-44 and 1-46.)

WHT: Select for automatic white balance.

BLK: Select for automatic black balance and black set level adjustment.

***Subcarrier**
Color information that is contained within a composite video signal. The signal amplitude is for color saturation (chromaticity) and its phase to color burst is for hue (color).

Camera Head Output Selectors


Inside the lid
SHUTTER
ON
C.SCAN
OFF
ZEBRA
ON•
OFF
MARKER
OFF
•ON
SC
0°
PHASE
180°
H
22 SHUTTER/CLEAR SCAN switch
23 REC REVIEW button
24 OUTPUT switch
25 GAIN selector
26 VTR button

22 SHUTTER/CLEAR SCAN switch
Flip this switch to control the electronic shutter or operate the Clear Scan function.

ON: In the SHUTTER position, this switch activates the electronic shutter. To select the shutter speed, use the DISP CHG button and the UP/ON or DOWN/OFF button. (See page 1-42.)
In the CLEAR SCAN position, this switch activates the Clear Scan function. To change frequencies, press the UP/DOWN button (displayed in Hz). The frequency you select is stored in the camera's memory. The frequency selection ranges as follows:
NTSC: 60.4 to 101.1 Hz.
PAL: 50.3 to 101.1 Hz.
OFF: Push to this position to deactivate the electronic shutter and Clear Scan function.

23 REC (record) REVIEW button
Press this button when using other format video cassette recorders with this camera to check the recorded picture while recording. (For details, refer to the operations manual for the other video cassette recorder.)

OUTPUT switch
24 Flip this switch to transfer the video signal output to the VTR, viewfinder, and the video monitor, or to transfer the color bar signal to the camera output or vice-versa.

BARS: A SMPTE type (for the DXC-537) or EBU (for the DXC-537P) color bar signal is output.
Note that with the SMPTE type, the I and Q signal in the color bars is replaced by black.
For example, use this setting for the following purposes:
- Adjusting the video monitor.
- Recording the color bar signal.

CAM: The video signal from the camera is output.

25 GAIN selector
Select a higher setting to lighten dark pictures.
When the picture is dark though the iris is open, use this selector.
0 dB: Normal setting.
9 dB: Raises the video output level by 9 dB.
18 dB: Raises the video output level by 18 dB.

26 VTR button
- **When connecting the camera to a portable VTR:**
  Press this button to start and stop recording.
- **When connecting the camera to a CCU-M7/M7P or CCU-M3/M3P:**
  Keep this button depressed to monitor the return video pictures on the viewfinder. Release it to monitor the camera pictures.

Accessory Attachment

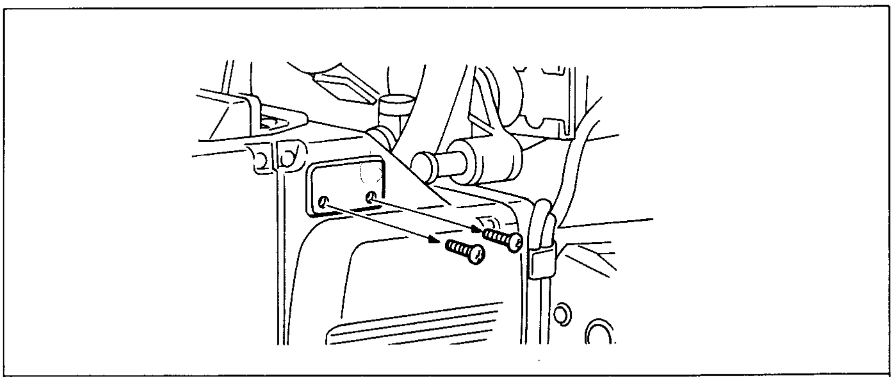
Attaching/Detaching a Hi8 Format Videocassette Recorder

To attach an EVV-9000/9000P Hi8 Format Videocassette Recorder to the camera head follow the above procedures for attaching and detaching the CA-537/537P Camera Adaptor.
Refer to the EVV-9000/9000P operations manual for instructions on how to operate the videocassette recorder with the camera head.

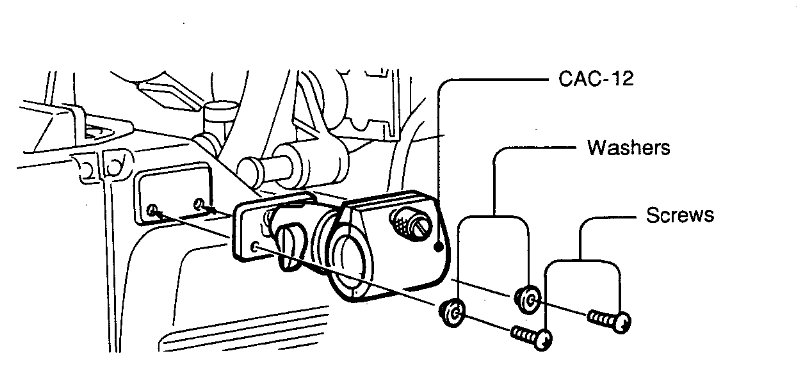
Attaching a Microphone

In order to attach an ECM-672 External Microphone (optional), first fit a CAC-12 Microphone Holder (optional) to the camera head.

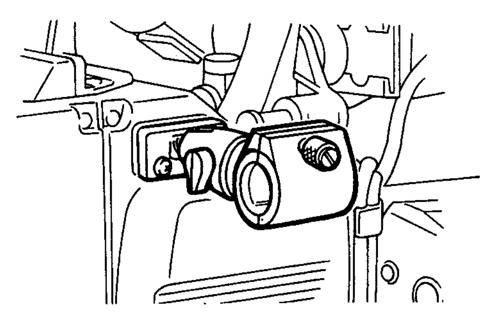
1. Remove the two screw from the side of the camera head above the words "SONY".



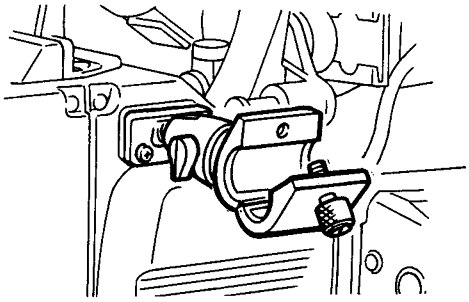
2. Using the screw removed in Step 1, attach the CAC-12 Microphone Holder.



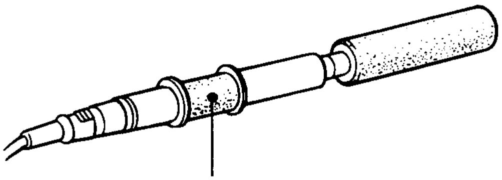
3. Loosen the microphone holder bolt.



4 Open the microphone holder.

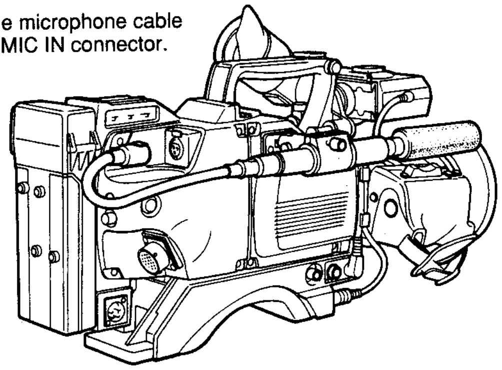


5 When using a bayonet (thin) type microphone, attach a microphone adaptor to the microphone.



(When you use the ECM-672 Microphone, the microphone adaptor is not necessary.)

6 Insert the microphone into the microphone holder, close the holder and tighten the bolt.

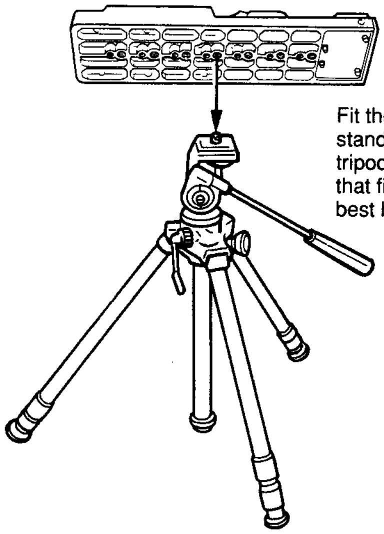


Insert the microphone cable into the MIC IN connector.

Attaching/Detaching a Tripod

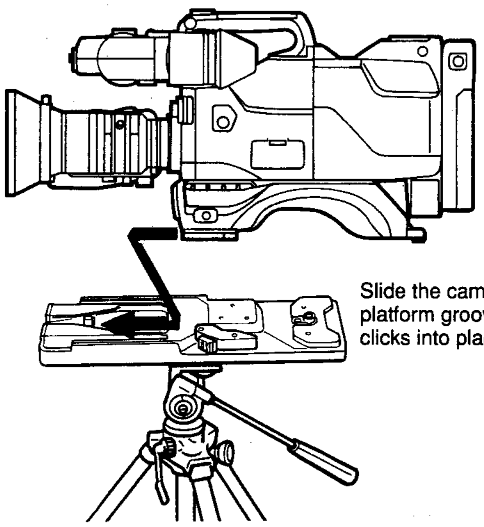
The fully loaded camera may be mounted directly onto a tripod.
However, for a more secure operation, fit the camera to a VCT-14 tripod platform before attaching it to a tripod stand.

1 Attach the tripod adaptor to the tripod.



Fit the screw at the top of the tripod stand into one of the holes in the tripod platform. Choose the hole that fits the screw and gives the best balance to the unit.

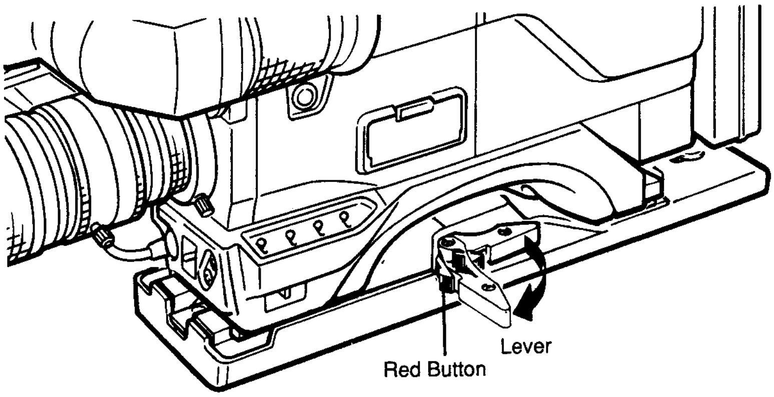
2 Mount the unit on the tripod adaptor.



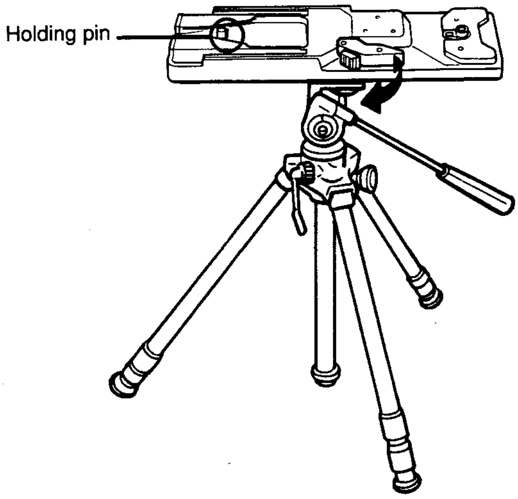
Slide the camera forward along the platform groove until the camera clicks into place.

Detaching the Camera from the Tripod

1 While pressing the red button, push the lever in the direction indicated by the arrow and detach the camera from the platform.



2 Make sure the holding pin has dropped back to its stowed position after removing the camera. Otherwise, you cannot remount the video camera to the tripod platform. To make sure the holding pin goes to its stowed position, press the red button against the lever and the move the lever in the direction of the arrow until the pin drops down.



Connections

This section shows you how to connect an S-VHS format portable VTR, regular portable VTR, table-top VTR and camera control unit to the camera head. Depending on the type of VTR connected, the VTR settings, power supply, and camera you choose, functions may vary.

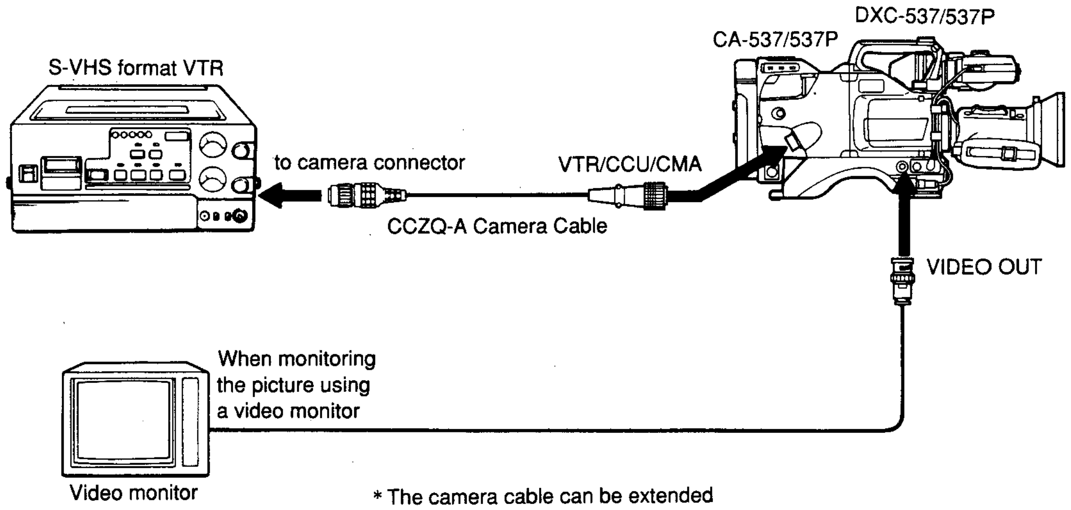
Consult the "VTR-Camera Function Table" on page 1-23 for details on the functions available with different VTRs. For the general use of the camera with a VTR attached, see "Basic Videotaping Operations" on page 1-27.

Before You Begin

Make sure the power switches on the camera, VTR, and other equipment are set to OFF.

Attach the CA-537/537P Camera Adaptor to the camera head before attaching any of the below equipment.

Connecting an S-VHS Format Portable VTR


DXC-537/537P
CA-537/537P
S-VHS format VTR
to camera connector
VTR/CCU/CMA
CCZQ-A Camera Cable
VIDEO OUT
When monitoring the picture using a video monitor
Video monitor

* The camera cable can be extended up to 10 meters (33 feet).

1 Following the diagram, insert an optional CCZQ-A Camera Cable into the camera connector on the VTR.

2 Insert the other end of the cable into the VTR/CCU/CMA 26-pin connector on the CA-537/537P Camera Adaptor.

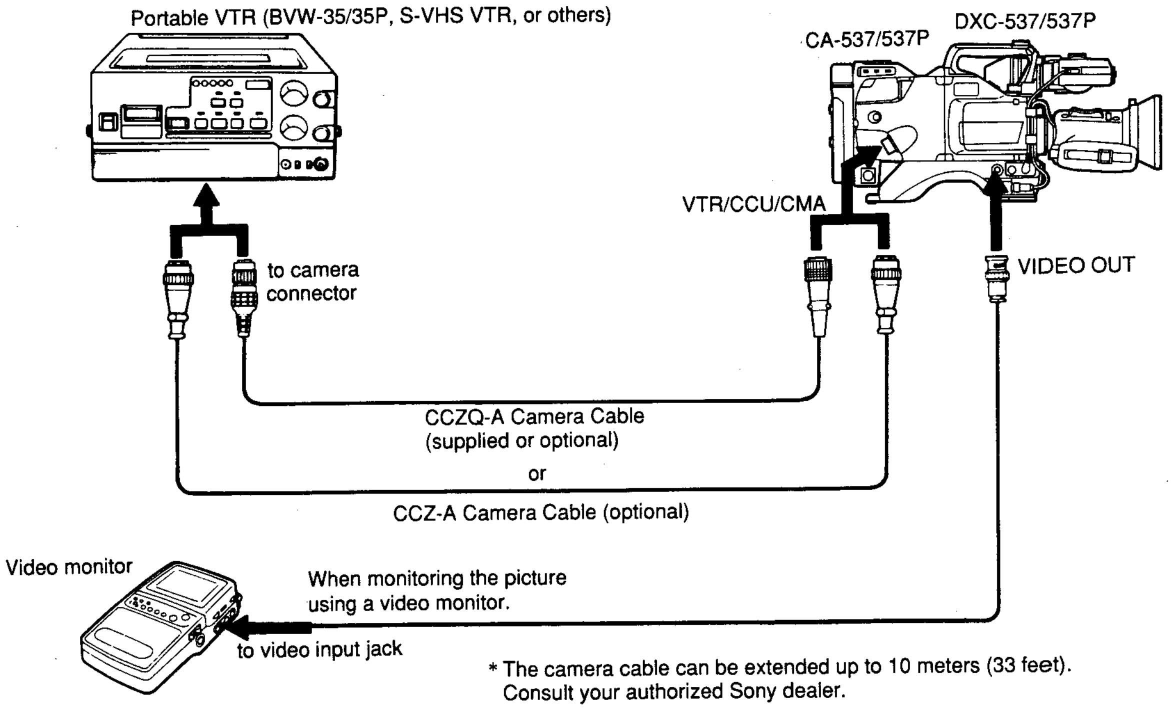
3 When monitoring the camera image on a video monitor, insert one end of a coaxial cable into the VIDEO OUT connector on the camera head and the other end into the Video Input connector on the monitor.

Connecting a Portable VTR with Y/C Separate Input

1	If the monitor and VTR have S-type video connectors, connect a cable between the S-type video output jacks of the VTR and the S-type input jacks of the monitor. Or, make the connection between the VIDEO OUT connector on the camera and the In connector on the monitor.
2	When connecting the SP-Umatic VTR-8800/8800P or S-VHS format portable VTR to the CA-537/537P Camera Adaptor, set the OUTPUT selector on the camera adaptor to position 3.

Connecting a Portable VTR

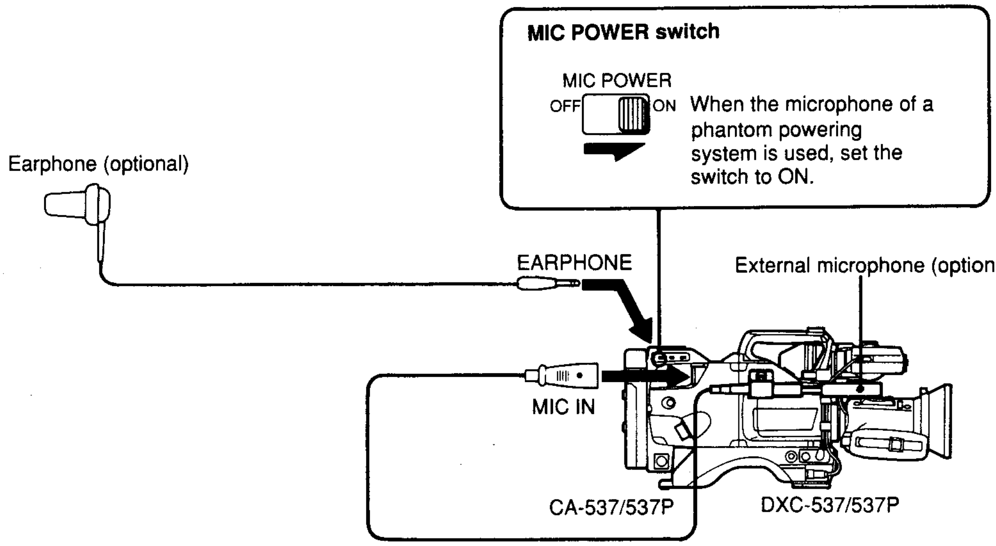
Looking at the diagram below, follow the same procedure as in "Connecting an S-VHS Format Portable VTR" on page 1-16.


Portable VTR (BVW-35/35P, S-VHS VTR, or others)
CA-537/537P
DXC-537/537P
VTR/CCU/CMA
to camera connector
VIDEO OUT
CCZQ-A Camera Cable (supplied or optional)
or
CCZ-A Camera Cable (optional)
Video monitor
When monitoring the picture using a video monitor.
to video input jack

* The camera cable can be extended up to 10 meters (33 feet). Consult your authorized Sony dealer.

Making Connections for Simultaneous Sound Recording

To make a simultaneous sound recording and to avoid recording noise made while handling the camera, connect an external microphone to the MIC IN connector on the camera adaptor (see figure below).
With the below connections, note that the built-in microphone automatically shuts off.


MIC POWER switch
MIC POWER
OFF
ON
When the microphone of a phantom powering system is used, set the switch to ON.
Earphone (optional)
EARPHONE
External microphone (optional)
MIC IN
CA-537/537P
DXC-537/537P

1 Screw the external microphone in place on the camera head via the microphone holder attachment.
If you are using an ECM-672 External Microphone, follow the procedure for attaching this microphone on page 1-12.

2 Insert the microphone cable connector into the MIC IN connector on the camera adaptor.

3 Connect an earphone via the EARPHONE jack on the camera adaptor.

Connecting a Table-Top VTR

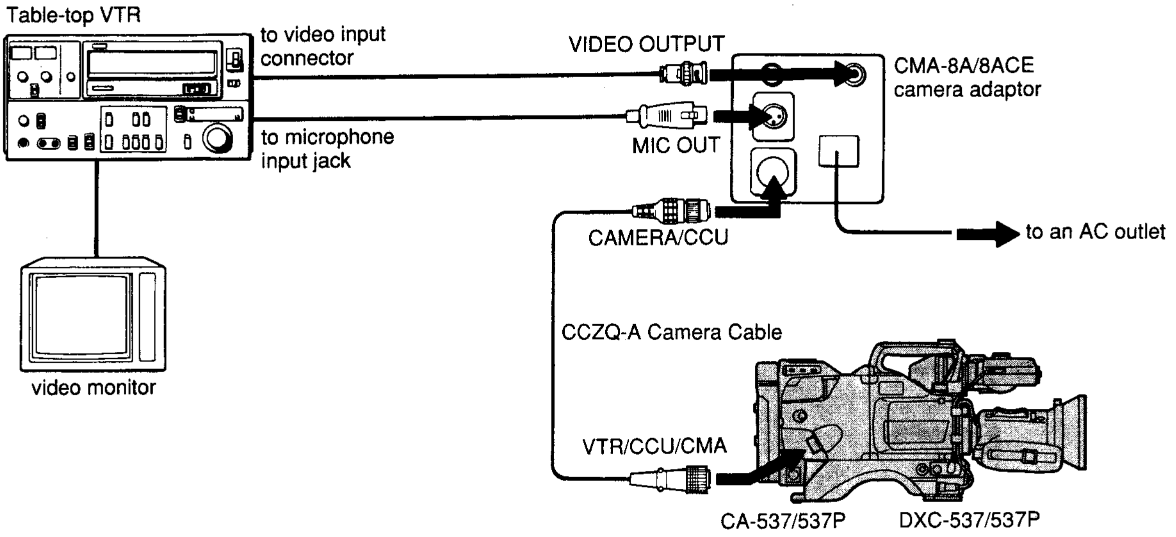


Table-top VTR
to video input connector
to microphone input jack
video monitor
VIDEO OUTPUT
MIC OUT
CMA-8A/8ACE camera adaptor
CAMERA/CCU
to an AC outlet
CCZQ-A Camera Cable
VTR/CCU/CMA
CA-537/537P
DXC-537/537P

* The camera cable can be extended up to 10 meters (33 feet).

1 Following the diagram above, insert an optional coaxial cable into the video input connector on the VTR.

2 Insert the other end of the coaxial cable to the VIDEO OUTPUT connector on the CMA-8A/8ACE Camera Adaptor.

3 Insert a cable into the microphone input jack on the VTR and the other end into the MIC OUT on the CMA-8A/8ACE Camera Adaptor.

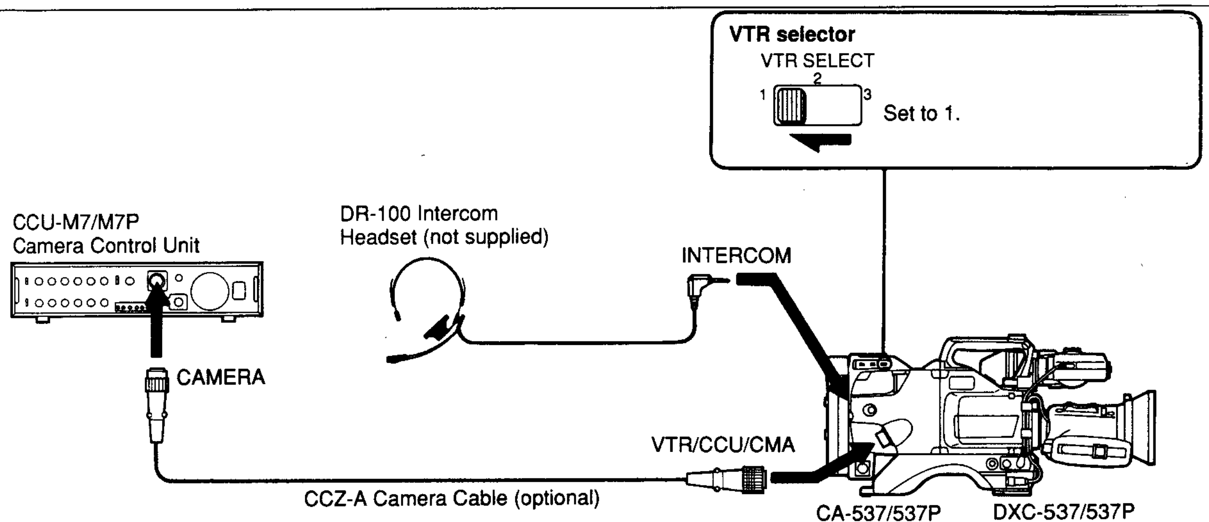
4 Insert a CCZQ camera cable into the CAMERA/CCU connector on the CMA-8A/8ACE Camera Adaptor.

5 Insert the other end of the CCZQ cable into the VTR/CCU/CMA 26-pin connector on the CA-537/537P Camera Adaptor.

6 Connect one end of a power cable to the CMA-8A/8ACE Camera Adaptor and the other end to an AC power outlet.

Connecting a Camera Control Unit

Connecting the CCU-M7/M7P Camera Control Unit


VTR selector
VTR SELECT
1
2
3
Set to 1.
CCU-M7/M7P
Camera Control Unit
DR-100 Intercom
Headset (not supplied)
INTERCOM
CAMERA
VTR/CCU/CMA
CCZ-A Camera Cable (optional)
CA-537/537P
DXC-537/537P

* The camera cable can be extended up to 300 meters using a CCZZ-1B or CCZZ-1E Cable Extension Adaptor. Consult your authorized Sony dealer.

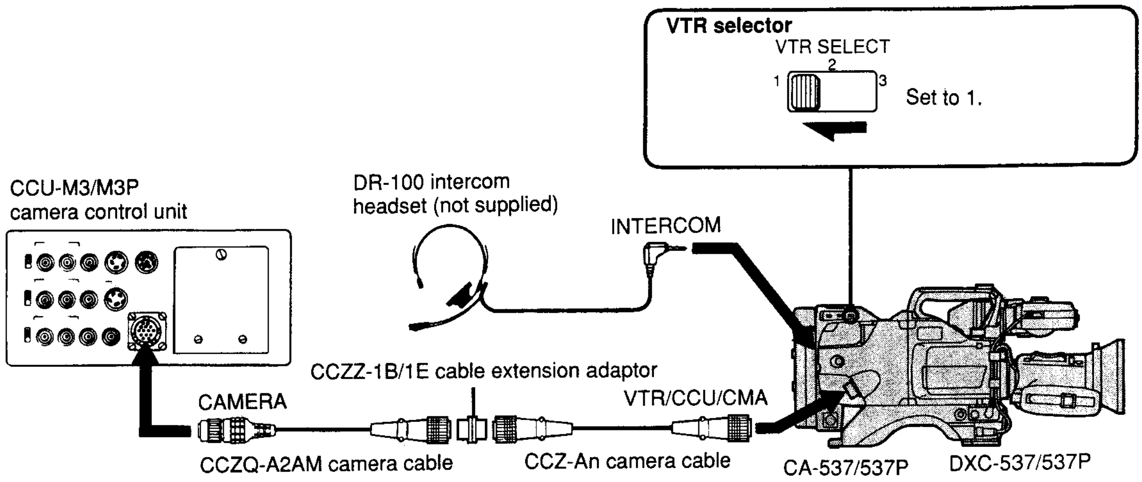
1 Following the diagram above, connect an optional CCZ-A Camera Cable to the VTR/CCU/CMA connector on the camera adaptor.

2 Insert the other end of the cable into the CAMERA connector of the CCU-M7/M7P Camera Control Unit.

3 Connect a DR-100 Intercom Headset to INTERCOM jack on the CA-537/537P Camera Adaptor.

4 Set the camera head VTR selector to "1".

Connecting the CCU-M3/M3P Camera Control Unit


VTR selector
VTR SELECT
1
2
3
Set to 1.
CCU-M3/M3P camera control unit
DR-100 intercom headset (not supplied)
INTERCOM
CCZZ-1B/1E cable extension adaptor
CAMERA
VTR/CCU/CMA
CCZQ-A2AM camera cable
CCZ-An camera cable
CA-537/537P
DXC-537/537P

* The camera cable can be extended up to 100 meters (330 feet). Consult your authorized Sony dealer.

1 Following the diagram above, connect an optional CCZ-An Camera Cable to the VTR/CCU/CMA connector on the camera adaptor.

2 Insert the other end of the cable into the CAMERA connector of a CCU-M7/M7P Camera Control Unit.

3 Follow steps 3 and 4 for connecting the CCU-M7/M7P Camera Control Unit (Page 1-20.)

Inoperable Camera Head Functions with the CCU-M7/M7P or CCU-M3/M3P Connected

- When the camera is connected to the CCU, the following switches on the camera head do not operate:
  - GAIN selector
  - WHITE BAL selector
  - H PHASE control
  - SC PHASE control
  - SC phase selector
- The MIC IN connector on the camera adaptor cannot be used as an external microphone input.

White/Black Balance with the CCU-M3/M3P Connected

- When the W/B BALANCE selector on the CCU is set to PRESET or MANUAL, the CCU adjusts the white balance and takes priority over the setting done on the camera.
- If the W/B BALANCE selector is set to AUTO, the white balance can be adjusted using either the camera or CCU controls.
- Do automatic black balance adjustments by setting the W/B BALANCE selector on the CCU to AUTO or PRESET, and the AUTO W/B BAL switch on the camera to BLK.

Gamma and Knee Controls with the CCU-M7/M7P Connected

When the camera is connected to the CCU-M7/M7P, the GAMMA controls and KNEE controls of the CCU-M7/M7P do not affect the video output signal of the camera. However, the setting value of the GAMMA and KNEE level on the monitor screen change.

Shutter and Clear Scan Control with the CCU-M3/M3P Connected

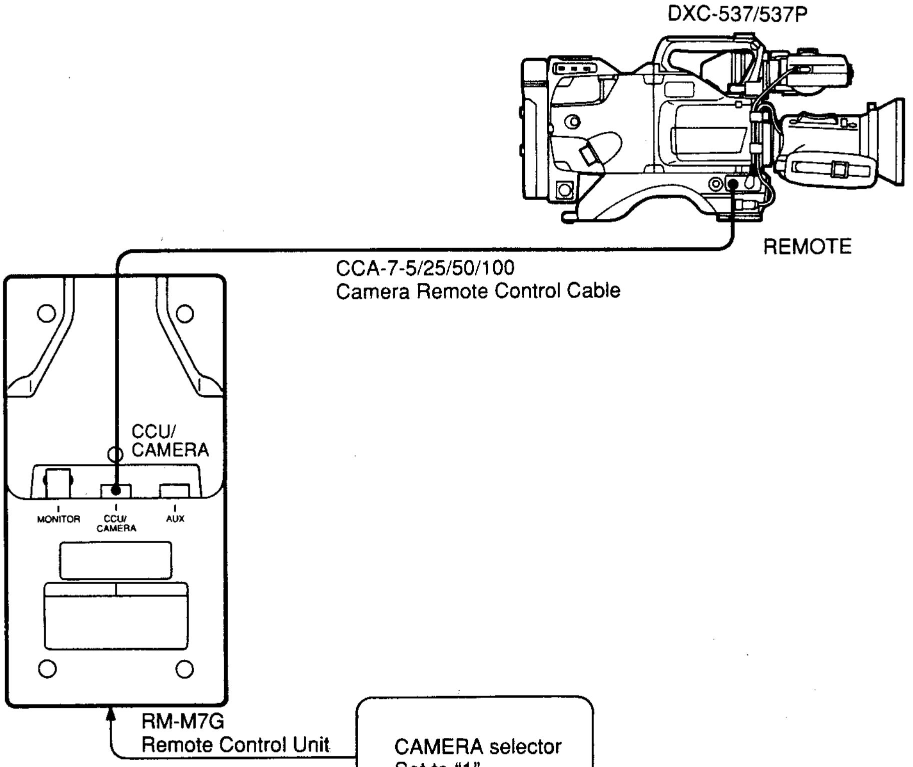
When the camera is connected to the CCU-M3/M3P, control the shutter and Clear Scan functions from the camera head.

Clear Scan Control with the CCU-M7/M7P Connected

When the CCU-M7/M7P is connected to the camera, control the Clear Scan function from the camera head.

Connecting a Remote Control Unit

By connecting an RM-M7G Remote Control Unit (optional), you can control the principal camera functions at a distance. For more details on using the remote control, consult your Sony dealer.


DXC-537/537P
REMOTE
CCA-7-5/25/50/100
Camera Remote Control Cable
CCU/
CAMERA
MONITOR
CCU/
CAMERA
AUX
RM-M7G
Remote Control Unit

CAMERA selector
Set to "1".

1 Connect the CCA-7-5/25/50/100 Camera Remote Control Cable to the REMOTE connector on the camera head.

2 Connect the other end of the cable to the CCU-CAMERA connector on the remote control unit.

3 Set the CAMERA selector on the RM-M7G Remote Control unit to "1".

Gamma and Knee Controls with the RM-M7G Connected
When the camera is connected to a RM-M7G, the GAMMA and KNEE controls of the RM-M7G do not affect the video output signal of the camera.

Clear Scan Control with the RM-M7G Connected
Control the Clear Scan function from the camera head when the RM-M7G Remote Control Unit is connected.

Using the Camera with a VTR

Set the VTR selector switch on the camera adaptor (at the top of the camera adaptor) to "1", "2" or "3" depending on your VTR (see the VTR-Camera Function Table below).

Depending on the VTR connected to the camera, the functions of the camera and the VTR vary. (Please consult your local authorized Sony dealer if you want to use a VTR other than those shown in the table below.)

VTR-Camera Function Table

VTR selector	Microphone level	Connected VTR	Remote control of VTR start/stop	REC indicator		BATT alarm indication	Audio monitor (on the camera)	Picture shown on the viewfinder		Cable for connection	Power supply from VTR to camera (See note 1.)	AC power adaptor for VTR
				REC indication	VTR alarm			During recording (picture from the camera)	During playback (picture from the VTR)			
1	–60 dB (See note 2.)	BVW-35 BVW-35P	Yes	Yes	Yes	Yes	Yes	Yes	Yes	CCZ-An	Yes	AC-500 AC-500CE
		BVU-150 BVU-150P								CCZQ-nA		
		VO-6800 VO-6800PS										CMA-8A CMA-8ACE
3	–60 dB	VO-8800 VO-8800PS										
2	–20 dB	AG-6400 (Panasonic)			No	No	No			CCZJ-2	No	
3	–20 dB	AG-7400 (See note 4.) (Panasonic)					Yes		Yes (See note 3.)	CCZQ-nA		

Notes on the Camera Function Table

1. For VTRs with a "No" in the "Power Supply from the VTR to Camera" column, the power supply from the VTR is insufficient to operate the camera. Therefore, an independent power source must be provided for the camera.

   Caution

   If the camera is operated without being powered independently, heat will build up in the VTR or AC power adaptor, and the safety circuit will activate. This will prevent the VTR or AC power adaptor from operating properly.

2. When the VO-6800/6800PS Portable VTR is connected to the camera, set the –20 dB/–60 dB camera microphone input selector on the VTR to –60 dB.

3. A picture from a VTR can be seen only when you press the RET button on the zoom lens.

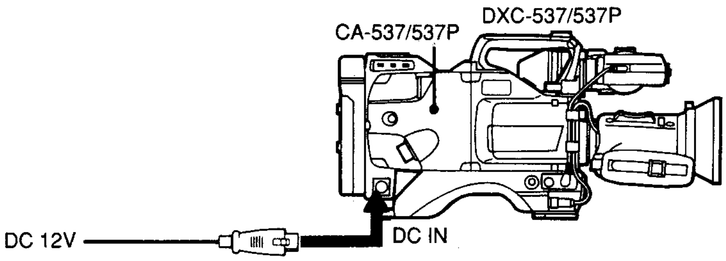
4. To use the AG-7400 VTR, the VTR selector switch must be set to "3" on the camera adaptor for normal (color) recording.

Power Sources

When the CA-537/537P Camera Adaptor is attached, the DXC-537/537P camera is powered by one of three types of power supply: external DC, battery DC, or AC power.

Using a DC Power Supply

Connecting to a DC power outlet


DXC-537/537P
CA-537/537P
DC 12V
DC IN

1 To use an external DC (12V DC) power supply, attach a CA-537/537P Camera Adaptor to the camera head.

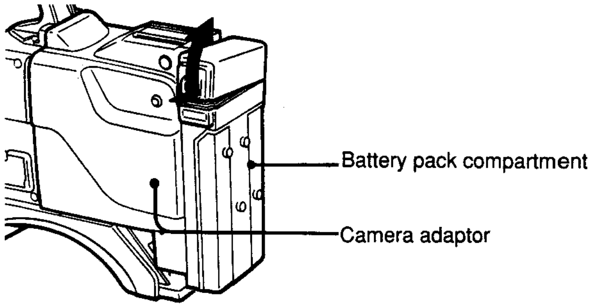
2 Connect a connecting cable from the DC IN connector on the camera adaptor to the external DC power source.

Using a Battery Pack

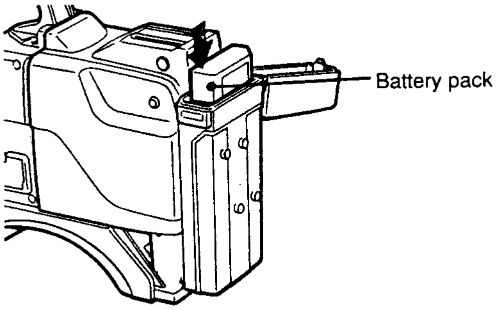
Before using the battery pack, recharge the battery (see “Charging the Battery” below).

Installing the Battery Pack

1 Press the button at the side of the battery case lid and pull open the lid.


Battery pack compartment
Camera adaptor

2 Slide the battery into the battery case with the arrow on the battery pack pointing downward.



Continuous Battery Operation Time

When a camera adaptor is attached, the fully charged battery pack can continuously power the camera and viewfinder for a certain amount of time (see the table below). However, with the EVV-9000/9000P Videocassette Recorder attached, battery life is shortened.

Battery Life

Battery Type	Battery Life with CA-537 installed	Battery Life with EVV-9000 installed
NP-1B	About 110 minutes	About 75 minutes
NP-1A	About 85 minutes	About 55 minutes

Battery Life Warning

When the battery is nearly exhausted, the warning "BATT.XX.X V" appears on the viewfinder screen showing the voltage level in the "XX.X". If you continue to operate the equipment without changing the battery, the BATT indicator of the viewfinder also lights up to indicate that the battery must be replaced immediately.

Charging the Battery

Recharge the battery pack before each use using the battery charger shown in the table below.

Battery Chargers

Battery pack	Battery charger	Charging time
NP-1B	BC-1WB	About 95 minutes
NP-1A	BC-1WB	About 70 minutes
	BC-1WA	About 70 minutes

Using Power Supplied Through the Camera Adaptor

To use the following equipment, make sure you have attached a CA-537/537P Camera Adaptor.

Using a Portable VTR

1. Align and insert one end of the optional CCZQ Camera Cable into the VTR/CCU/CMA connector on the camera adaptor, and the other end into the VTR 14-pin Q-type camera connector on the VTR.
2. If the camera system is to be powered by a battery pack, check the battery level by turning on the VTR and camera and looking at the BATT indicator in the camera viewfinder.

See the connecting diagram for "Connecting a Portable VTR" (page 1-17.)

Using a Camera Control Unit

1. Align and insert one end of the optional camera cable into the VTR/CCU/CMA connector on the camera adaptor and the other end into the CAMERA connector on the camera adaptor.
2. If the camera system is to be powered by a battery pack, check the battery level by looking at the BATT indicator in the viewfinder.

See the connecting diagram for "Connecting a Camera Control Unit" (pages 1-20 and 1-21.)
For details on power sources for the CCU, refer to the CCU operations manual.

Using a CMA-8A/8ACE Camera Adaptor

Align and insert one end of the optional CCZQ-A camera cable into the VTR/CCU/CMA connector on the camera adaptor, and the other end into the CAMERA/CCU connector on the CMA-8A/8ACE.

For details, refer to the connecting diagram for "Connecting a Table-Top VTR" (page 1-19).

Priority of Power Sources

When two or three power sources (1 to 3 below) are simultaneously connected to the camera, the camera operation only uses one of the power supplies according to the numerical priority listed below (starting with DC power first). The other power sources are automatically cut off.

Type of Power (Priority)	supplied (on the camera adaptor) via the
1. DC power	DC IN connector
2. NP-1B or NP-1A battery	Battery Pack compartment
3. AC power	VTR/CCU/CMA connector

When the EVV-9000/9000P Hi8 is attached, the camera operates on one of the two types of power sources according to the numerical priority listed below.

Type of Power (Priority)	supplied (on the VTR) via the
1. DC power	DC IN connector
2. NP-1B or NP-1A battery	Battery Pack compartment

1-3. OPERATIONS

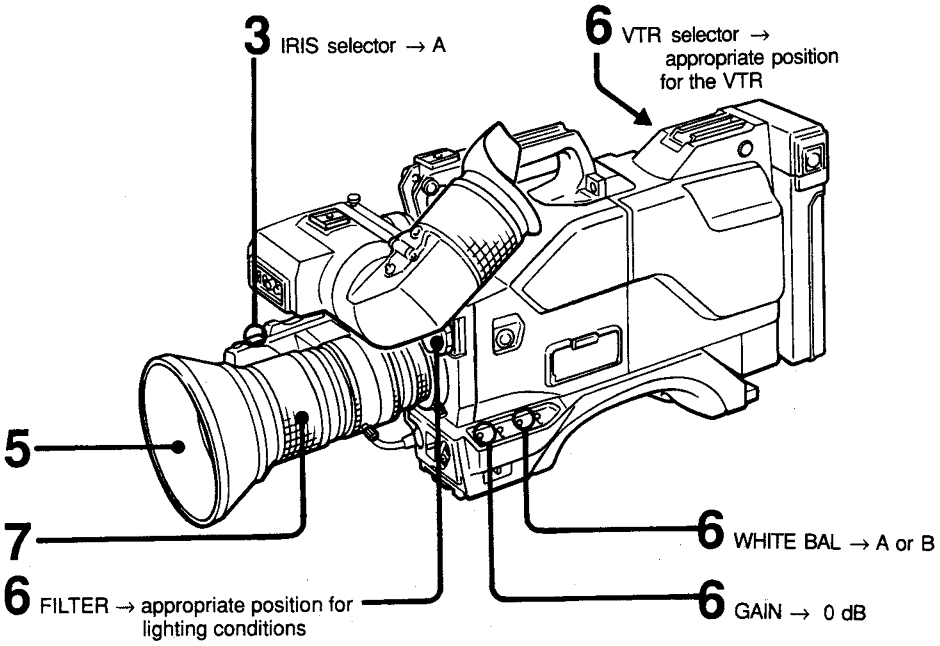
Basic Videotaping Operations

The following is the basic procedure for operating the camera. To get the most out of the videotaping operation, we recommend you do the adjustments and settings on the following pages.

Before You Begin

Make sure that the power supplied from the VTR to the camera is sufficient. If the power supply capacity of the VTR is not sufficient, the camera must be powered independently.

Operating the Camera


3 IRIS selector → A
6 VTR selector → appropriate position for the VTR
5
7
6 WHITE BAL → A or B
6 FILTER → appropriate position for lighting conditions
6 GAIN → 0 dB

1 Check that equipment connections, such as to the VTR, are correct (see pages 1-16 to 1-22).

2 Turn the power switches to the camera and the all the connected equipment to the ON position.

3 Set the IRIS selector on the zoom lens to "A" (see page 1-35).

4 Select the appropriate position for the FILTER selector for the ambient lighting (see page 1-37).

5 Remove the lens cap.

6 Set the following switches:
GAIN switch → 0 dB
WHITE BAL selector → A or B (see page 1-39)
VTR selector (on the camera adaptor) → corresponding to the VTR used

7 Point the camera at an object that is at least one meter (3-1/2 feet) from the lens.

8 Adjust the focus by turning the focus ring while looking at the image on the monitor or viewfinder screen.

Recording with a Portable VTR

1 Turn the power switches on the camera and connected equipment to the ON position.

2 Set the VTR to Record Standby mode.

3 Adjust the black balance and white balance. (For details on how to do this, see "Adjusting the Black Balance," page 1-37 and "Adjusting the White Balance," page 1-39.)

4 Point the camera at a reference object and adjust the lens.
Adjust the
  Iris (see page 1-35)
  Zoom (see page 1-45)
  Close-Up Function (see page 1-47)
  Focus (see page 1-46)

5 To start recording, press the VTR button on the camera, the VTR START/RETURN VIDEO button on the camera adaptor, or the VTR button on the lens.

- The REC/TALLY indicator in the viewfinder lights up during recording.
- The return video and playback picture appear on the viewfinder screen display.

6 To stop recording, press the VTR START/RETURN VIDEO button or the VTR button used in Step 5 above.

The BATT Indicator May Light Up When the Camera Goes On

For a brief period after the camera has been turned on, the BATT indicator of the viewfinder may light up and random characters may be displayed on the viewfinder screen. This is not a malfunction.

Recording with a Table-Top VTR

To record using a Table-Top VTR, follow the procedure explained above for recording with a portable VTR;
Step 5
Start and stop recording using the function buttons on the VTR.

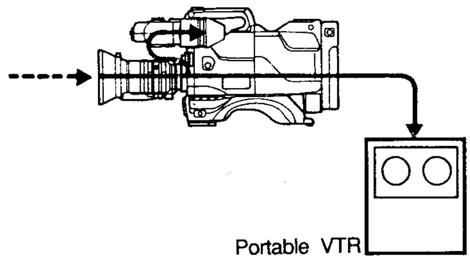
- The REC/TALLY indicator in the viewfinder does not function.
- The return video and the playback picture cannot be monitored on the viewfinder screen.

Monitoring the VTR Picture and Audio Output

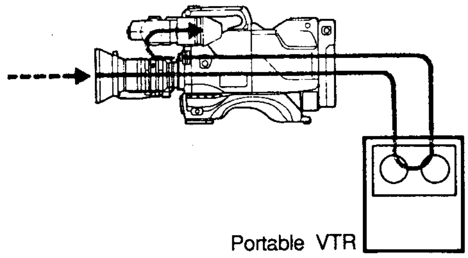
Monitoring the VTR Picture

You can see the following three types of images on the viewfinder screen when the camera and the VTR are connected with the CCQ camera cable. Note, however, that with some types of VTR, you may not be able to monitor a picture. (For more details on the pictures which can be seen on the viewfinder screen, see the "VTR Function Table" on page 1-23).

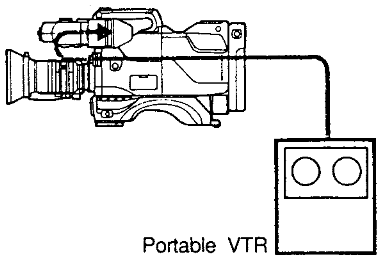
A picture picked up by the camera (during recording)



An E-E (return video) mode picture from the VTR (when the RET button on the lens is pressed during recording)



A playback picture (during playback)



Monitoring the Audio Output

You can monitor the audio signal during recording and reviewing by connecting an earphone to the EAR jack on the camera adaptor. Note, however, that with some types of VTR, you may not be able to monitor the audio output.

Noise on the Monitor

While the playback picture from the VTR displays on the viewfinder screen, some of the video signals output from the camera such as the sync signal, may mix with the playback picture so that streaks of noise roll horizontally or vertically across the screen.

Reading Indications in the Electronic Viewfinder

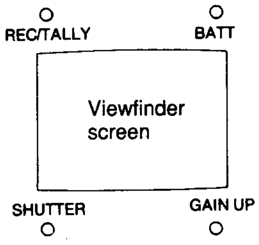
In the electronic viewfinder, the viewfinder screen itself shows you the settings of switches such as black/white balance and gain. At the periphery of the screen the viewfinder indicators show the status of operations such as battery level.

Reading Status Indicators on the Viewfinder

Four indicators (see illustration below) correspond to the status of the camera and connected equipment.
The illustration and table below show the location of the indicators on the periphery of the viewfinder screen and what they indicate.

The indicators are active or inactive depending on what is connected to the camera or what state the camera itself is in.

Viewfinder Screen and Status Indicators

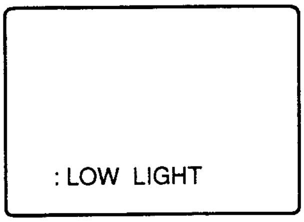


Indicator	Operates. . .	Flashes	Lights Continuously
REC/ TALLY	While recording using a VTR connected with a CCQ cable	Until the VTR enters the standby mode	During recording
	While using a VTR (equipped with a warning system), which is connected with a CCQ cable	While the VTR is malfunctioning	—
	While using the CCU-M3/ M3P	—	When a tally signal is transmitted from a video switcher, etc.
BATT	When the camera is powered by the battery pack	—	When the battery power becomes weak.
	When a VTR is connected to the camera	When the battery power becomes weak.	If you keep on operating the connected equipment after the indicator starts flashing.
	When the CCU is connected to the camera*		
SHUTTER	Any time	—	When the SHUTTER or CLEAR SCAN switch of the camera is set to ON.
GAIN UP	Any time	—	When the GAIN selector is set to 9 dB or 18 dB

* The indicator's flashing speed denotes the following:
Slow: The battery is weak.
Fast: The camera control units' switches and controls are being used.

Reading Warning Indications on the Viewfinder Display

Two indications, "LOW LIGHT" and "BATT. 10.7V" appear on the viewfinder display screen. The following explains what they mean and some possible remedies to the problems they indicate.



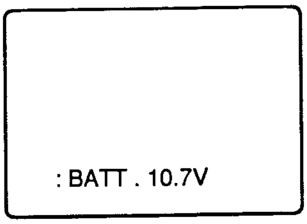
Meaning Lighting is insufficient.

Remedy
- Increase the ambient lighting.
- Open the iris manually or activate the automatic iris function.
- Select an appropriate filter.
- Set the GAIN selector to 9 dB or 18 dB.

It is possible to switch the "LOW LIGHT" indication on or off.

On: Press the UP/ON button when the character display is in the current camera setting (see next page) mode.

Off: Press the DOWN/OFF button when the character display is in the current camera setting (see next page) mode.



Meaning The input voltage to the camera is about 10.7 volts.

Remedy Replace the battery with a fully charged one.

If you continue recording with a weak battery, the quality of the recording will deteriorate.

Adjustments and Settings

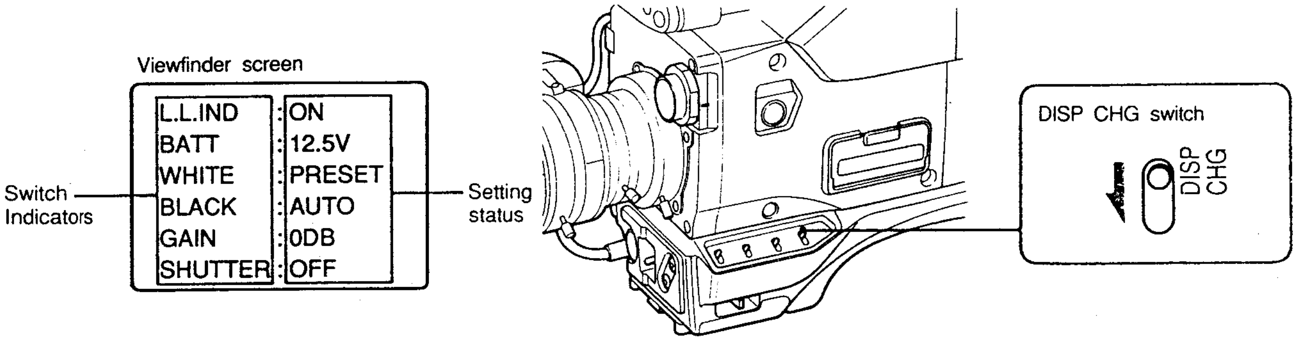
This section explains the screen display itself, the procedures for making adjustments to the current switch settings, the video monitor, and regular camera operations such as filter, iris, contrast and shutter speed settings.

Recognizing the Current Settings

The viewfinder screen shows you the settings of the switches on the camera head, camera adaptor, and zoom lens. If necessary, change the settings using the procedures described in this section and the table below.

Press the DISP CHG button several times until the following (see illustration below) display appears on the viewfinder screen.
The following table explains the meanings of the below screen display items.

Viewfinder Menu Display Items and Their Meanings



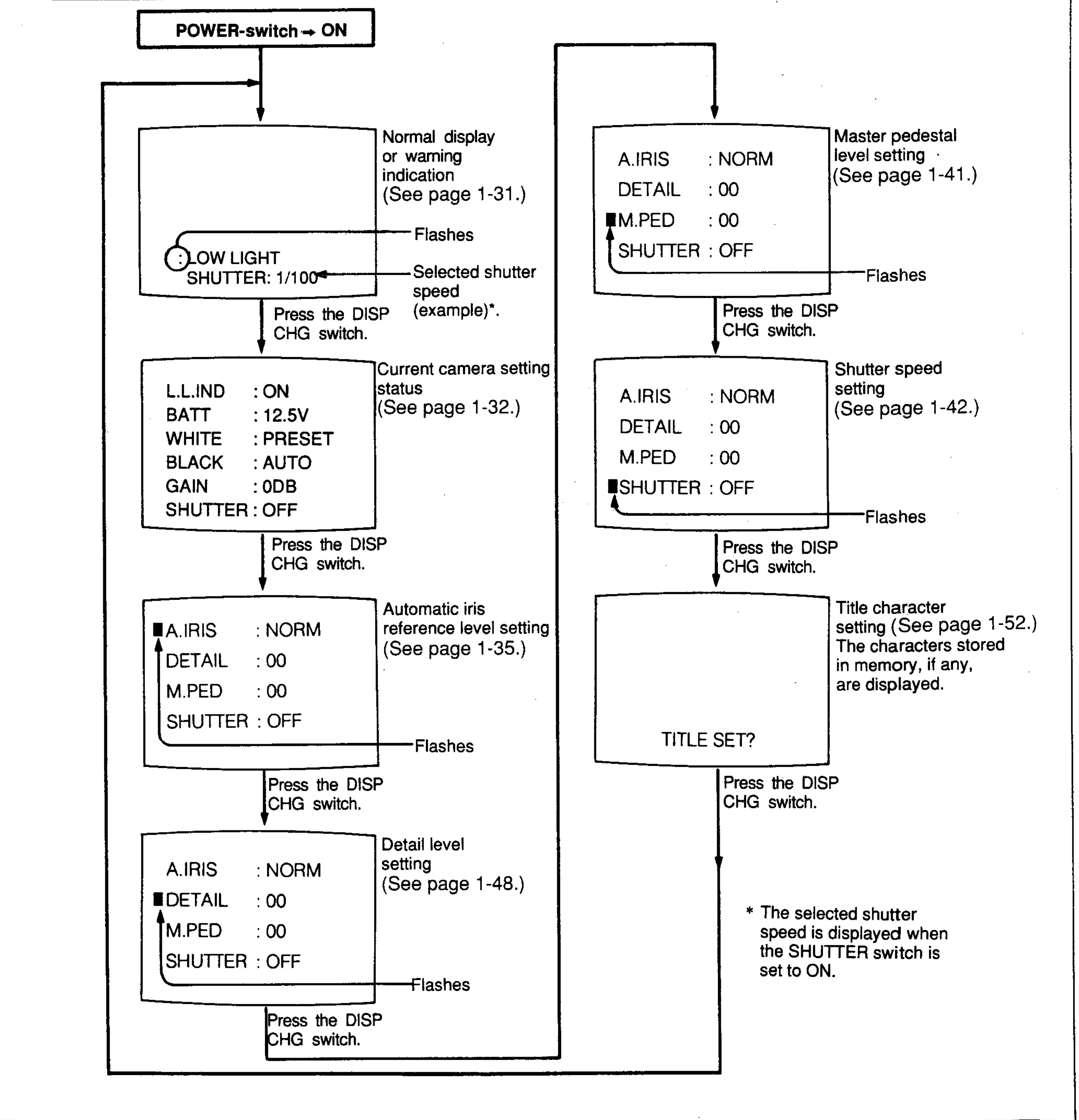
Switch Indicators	Meaning	Setting status	Meaning
L.L. IND	Setting the "LOW LIGHT" indication	ON	"LOW LIGHT" is displayed.
		OFF	"LOW LIGHT" is not displayed.
BATT	Battery voltage	XX.XV	The battery voltage level is displayed.
WHITE	White balance adjustment mode	PRESET	For the factory preset value
		AUTO/A or AUTO/B	For automatic adjustment. (The white balance has been adjusted automatically using the value stored in memory A or B.)
BLACK	Black balance adjustment mode	AUTO	For automatic adjustment
		MANUAL	For manual adjustment using the CCU-M7/ M7P, CCU-M3/M3P Camera Control Unit, or RM-M7G Camera Remote Control Unit
GAIN	Setting the video output level	0 dB, 9 dB, or 18 dB	The video output level is 0 dB, 9 dB or 18 dB.
		MANUAL	For manual adjustment using the CCU-M7/M7P, CCU-M3/M3P, or RM-M7G.
SHUTTER	Setting the shutter speed	OFF	The shutter speed cannot be changed.
		Shutter speed set	The set shutter speed is displayed.
C. SCAN	Clear Scan	XX.X Hz	The scanning frequency is displayed.

Reading the Viewfinder Screen Display Menu

The following chart shows how the display changes on the screen each time you press the DISP CHG switch.
In all modes, the black balance and white balance can be adjusted automatically.

The display mode changes to the black balance or white balance adjustment mode during adjustment and returns to the selected display after the adjustment is complete.

Order of Display Menus on the Viewfinder Screen


POWER-switch → ON
LOW LIGHT
SHUTTER: 1/100
Normal display or warning indication (See page 1-31.)
Flashes
Selected shutter speed (example)*.
Press the DISP CHG switch.
L.L.IND : ON
BATT : 12.5V
WHITE : PRESET
BLACK : AUTO
GAIN : 0DB
SHUTTER : OFF
Current camera setting status (See page 1-32.)
Press the DISP CHG switch.
A.IRIS : NORM
DETAIL : 00
M.PED : 00
SHUTTER : OFF
Automatic iris reference level setting (See page 1-35.)
Flashes
Press the DISP CHG switch.
A.IRIS : NORM
DETAIL : 00
M.PED : 00
SHUTTER : OFF
Detail level setting (See page 1-48.)
Flashes
Press the DISP CHG switch.
A.IRIS : NORM
DETAIL : 00
M.PED : 00
SHUTTER : OFF
Master pedestal level setting (See page 1-41.)
Flashes
Press the DISP CHG switch.
A.IRIS : NORM
DETAIL : 00
M.PED : 00
SHUTTER : OFF
Shutter speed setting (See page 1-42.)
Flashes
Press the DISP CHG switch.
TITLE SET?
Title character setting (See page 1-52.) The characters stored in memory, if any, are displayed.
Press the DISP CHG switch.
* The selected shutter speed is displayed when the SHUTTER switch is set to ON.

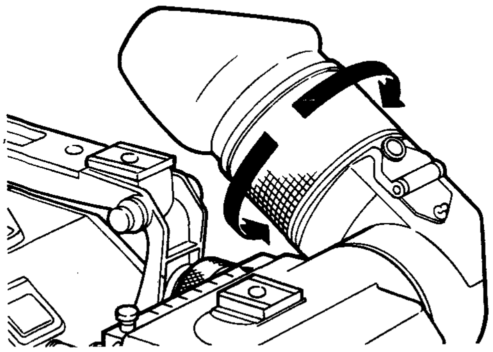
Each time you press DISP CHG the screen displays the above menus in the order indicated by the arrows.

Adjusting the Viewfinder Screen Display

After adjusting the viewfinder and the eye cup, make the following adjustments so that the viewfinder screen can be seen comfortably.
Note, however, that none of these settings affect the video output signal of the camera.

Adjusting the Diopter

Because the eye sight of each individual is different, it may be necessary to adjust the diopter when a new camera operator uses the viewfinder.



1. Focus the lens.
2. Turn the diopter ring (see illustration above) within the range of -1D to -3D until the view is clear.

Adjusting the Contrast and Brightness on the Viewfinder

1. Set the BARS switch on the camera to ON.
2. Adjust the contrast and brightness using the CONTR and BRIGHT controls on the viewfinder while referring to the color bar signals on the viewfinder screen.
3. Set the BARS switch to OFF after adjustment.

Adjusting the Sharpness on the Viewfinder

Set the PEAKING switch on the viewfinder to ON.
The image on the viewfinder screen sharpens so that the lens can be focused easily.

Adjusting the Video Monitor

When you are using a color video monitor to monitor the video output, adjust the color on the monitor using the procedure that follows. (See the section, "Connecting an S-VHS Format Portable VTR" on page 1-16 for information on how to connect a video monitor and a VTR.)

1. Set the BARS switch to ON.
2. Adjust the color and hue controls on the monitor while viewing the color bars on the monitor screen.
3. Set the BARs switch to OFF.

Adjusting the Iris

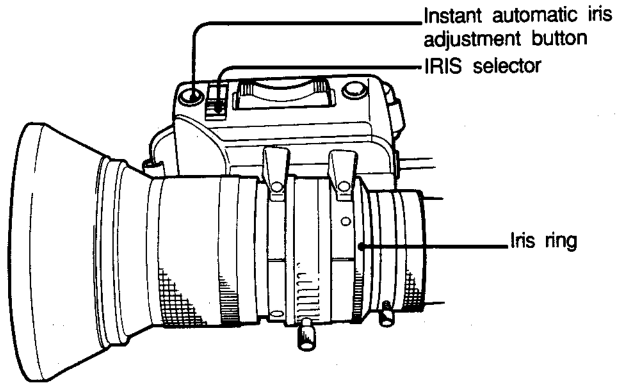
Automatic Iris Adjustment

Set the iris selector to "A." This is the normal setting for the automatic iris.
This setting makes the iris automatically adjust to the brightness of the object being shot.

Adjusting the Iris Manually

Use manual adjustment when recording an object against a bright sky or a scene with high contrast.
Set the IRIS selector to "M."

Temporary Automatic Adjustment



1 To automatically adjust the iris while the IRIS selector is set to "M", keep the Instant Automatic Iris Adjustment (IAIA) button depressed.

2 To fix the iris value that was set in Step 1, release the IAIA button. The iris remains fixed at this value until it is manually adjusted again.

Using the Zebra Pattern for Iris Adjustment

The Zebra Pattern appears on the portion of the screen where the video output is about 70 to 80 IRE (NTSC) or 490 to 560 mV (PAL). This pattern acts as a reference when you manually adjust the iris. (For the procedure, see "Checking the Video Level," page 1-49.)

Selecting the Automatic Iris Reference Level

When adjusting the video level of a back-lit subject, you can change the automatic iris reference level setting. When you make the setting, it is retained in the memory of the camera.

The selectable values are as follows:
- –1.0
- –0.5
- NORMAL (reference value)
- 0.5
- 1.0

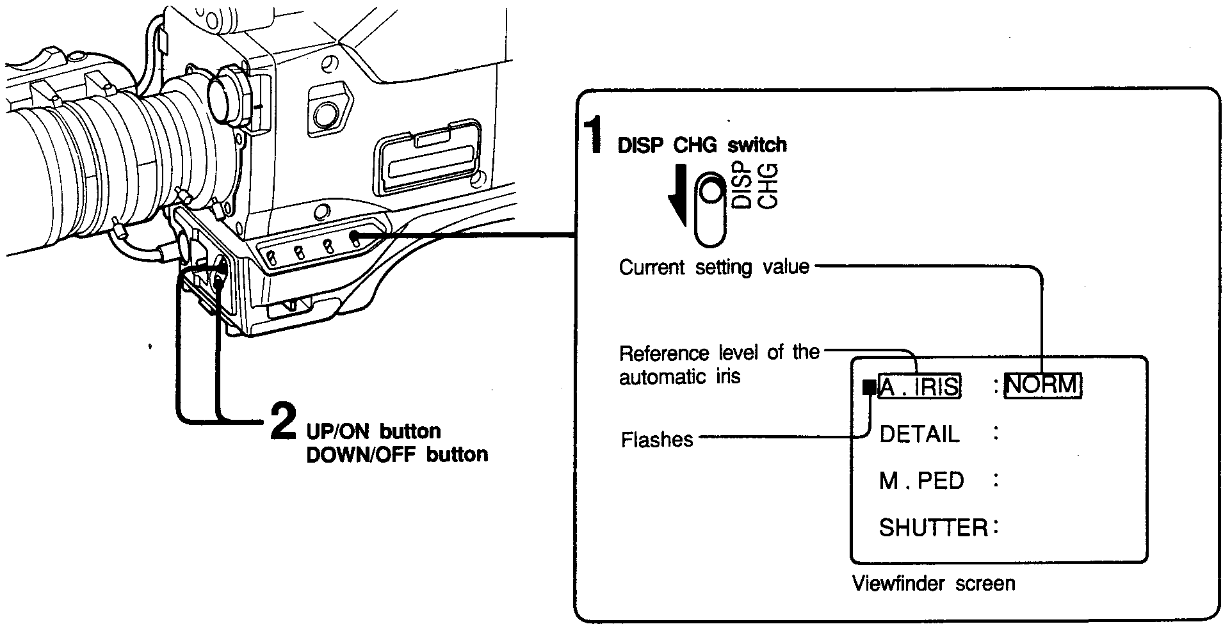
1 To select the automatic iris reference level, press the DISP CHG switch several times until the following (see the illustration on the next page) display appears on the viewfinder screen.

2 Select the setting value (from –1.0 to 1.0).
To raise the value
Press the UP/ON button
To lower the value
Press the DOWN/OFF button
To Reset to NORMAL
Press the UP/ON and DOWN/OFF buttons simultaneously

Note

When you connect the CCU-M7/M7P, CCU-M3/M3P Camera Control Unit, or RM-M7G Camera Remote Control Unit to the camera, change the automatic iris reference level using the controls on the CCU-M7/M7P, CCU-M3/M3P, or RM-M7G. The controls on the camera do not operate this function.

Menu Display and Automatic Iris Reference Level Setting


1 DISP CHG switch
DISP
CHG
Current setting value
Reference level of the automatic iris
Flashes
■A . IRIS : NORM
DETAIL :
M . PED :
SHUTTER :
Viewfinder screen
2 UP/ON button
DOWN/OFF button

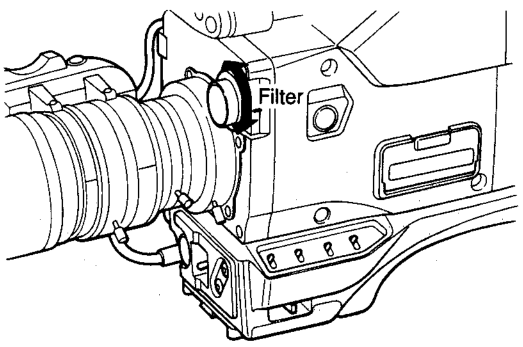
Selecting the Filter

The color temperature changes according to lighting conditions. To compensate for this, use one of the color temperature conversion filters indicated in the table below. Turn the dial (see illustration below) to the correct filter number.

Color Temperature Conversion Filter Table and Filter Dial on the Camera

Filter number	Color temperature	Lighting conditions
1	3200K	Iodine lamp, sunrise, sunset
2	5600K + 1/4 ND*	Bright outdoor
3	5600K	Cloudy, rainy
4	5600K + 1/16 ND	Exceptionally bright scenes, beach in summer, snow fields in winter

* ND: Neutral Density



Filter selector

When the selected filter does not suit the lighting conditions
A warning such as "LOW LIGHT" displays on the viewfinder screen if you have selected the wrong filter for the lighting. (For details on warnings, see "Reading Warning Indications on the Viewfinder Screen Display," on page 1-31.)

Using an ND Filter

Exceptionally bright scenes such as a sunny day at the beach or snow-covered terrain will look "washed out" when videotaped. To videotape these scenes naturally, use an ND filter and set the FILTER selector to the "4" position.

Use the above table as a guide for selecting the correct filter.

Adjusting the Black Balance

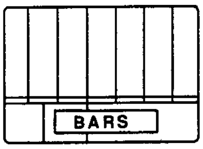
Adjust the black balance to ensure picture clarity and life-like color reproduction.
When adjusting the black balance, adjust the black set simultaneously. The adjusted black balance value is retained in the memory of the camera and you need not re-adjust it later except for the following cases:

Re-adjust the black balance if
- "MEMORY NG" appears on the viewfinder screen
- the camera has not been used for a long time
- the ambient temperature has changed radically

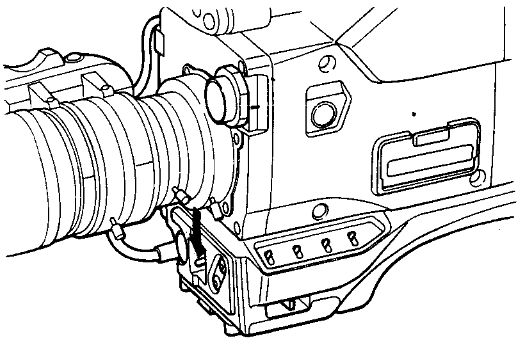
Doing the Black Balance Adjustment

Before You Begin

Set the camera so that the normal video signal outputs. If the video camera is outputting a color bar signal, you cannot adjust the black balance. If you try to do so, the viewfinder screen displays the following message over the color bars:



"BARS" Message and Color Bars



1 **To adjust the black balance, flip the AUTO W/B/BAL switch to the BLK position (see above).**
When the W/B BALANCE switch on the camera control unit is set to MANUAL, you cannot adjust the black balance from the camera.

2 **When you hear a click, release the switch.**
"AUTO BLACK -OP-" appears on the viewfinder screen during adjustment, and "AUTO BLACK -OK-" appears on the viewfinder screen when adjustment is complete.
The iris closes if the IRIS selector is set to "M". To open it again, you must open it manually.

If black balance cannot be done

The characters shown below are displayed on the viewfinder screen.

Black Balance Error Message

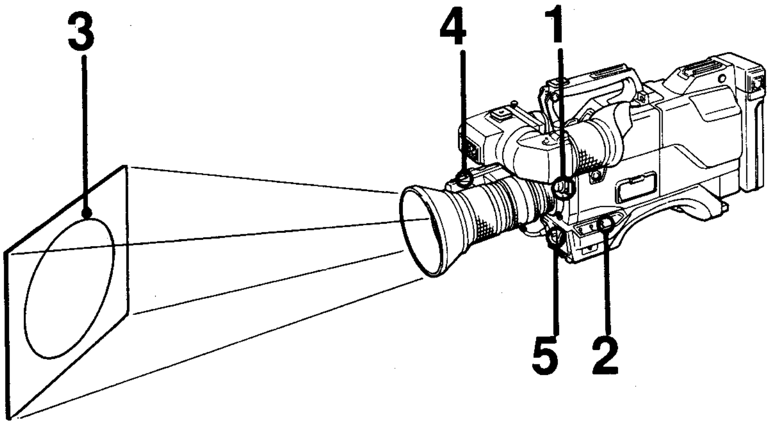
```
AUTO BLACK
 — NG —
IRIS:
NOT CLOSED
TRY AGAIN
```

The above message means that the iris was not closed during black balance adjustment. This may occur when the lens connector is not connected correctly, or when some trouble occurs on the lens.

Adjusting the White Balance

The white balance should be adjusted so that a white object is reproduced as white and life-like color is obtained. The white balance changes depending on the lighting conditions.

The camera has two memories, A and B, in which to store the adjusted white balance values. You can store two adjusted values under two different lighting conditions and recall either of the values according to ambient conditions.

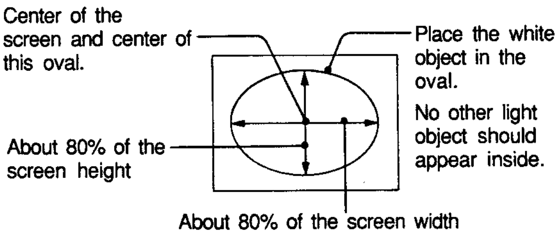


If "MEMORY NG" appears in the viewfinder screen readjust the white balance.

1 Select the position of the FILTER selector on the camera head according to lighting conditions.

2 Set the WHITE BAL selector to "A" or "B".

3 Zoom up on a white object such as a white cloth or paper with the same lighting conditions as those for shooting. The minimum white area required for adjustment is as follows:


Center of the screen and center of this oval.
Place the white object in the oval.
No other light object should appear inside.
About 80% of the screen height
About 80% of the screen width

4 Set the IRIS selector on the lens to "A".

5 Press the AUTO W/B/BAL switch to the WHT position. When you hear a click, release the switch. "AUTO WHITE -OP-" appears on the display screen during adjustment, and "AUTO WHITE -OK-" appears on the viewfinder screen when adjustment ends. The camera stores the adjusted white balance value in the selected memory.

When the white balance cannot be done

The following characters appear on the screen display if white balance cannot be done. Re-adjust the white balance after taking the measures required in the chart below.

White Balance Error Messages

AUTO WHITE
—NG—

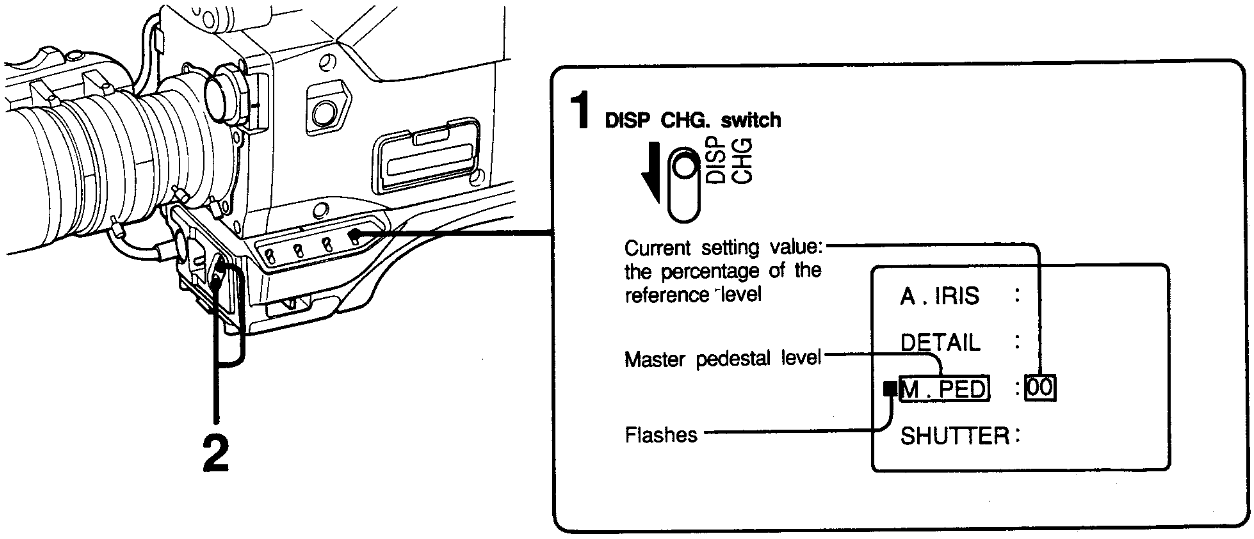
TRY AGAIN

Display	Causes and measures
LOW LIGHT	Light is insufficient. Add illumination or raise the video output level with the GAIN selector.
??	The object is not white or very bright light appears in the picture. Change the object to an appropriate one.
C. TEMP. LOW CHG. FILTER	Color temperature is too low. Select the appropriate filter with the FILTER selector.
C. TEMP. HI CHG. FILTER	Color temperature is too high. Select the appropriate filter with the FILTER selector.
WHITE: PRESET	When the WHITE BAL selector is set to the PRE position. Set to the A or B position.
WHITE: MANUAL	When the CCU is connected, and the manual white balance adjustment is selected on the CCU. Select to the automatically adjust.
BARS	When the color bar signal is output. Set the OUTPUT switch to "CAM" position.

Adjusting the Contrast

To adjust the contrast, change the pedestal level. When the master pedestal level is raised, the dark portion of the picture brightens, and when the level is lowered, the corresponding portion darkens. You can change the level from about –30% to +30% of reference level (0.7 V) in increments of 1%. The adjusted master pedestal level is kept in the memory of the camera.

Adjusting the Contrast


2
1 DISP CHG. switch
DISP CHG
Current setting value: the percentage of the reference level
Master pedestal level
Flashes
A . IRIS :
DETAIL :
M . PED : 00
SHUTTER :

1 Press the DISP CHG switch several times until the display above appears on the viewfinder screen.

2 Change the master pedestal.

To raise the level
Press the UP/ON button on the camera head.
To lower the level
Press the DOWN/OFF button on the camera head.
To reset the level to the reference level
Press the UP/ON and DOWN/OFF buttons simultaneously.

On setting the master pedestal level
If the CCU-M7/M7P, CCU-M3/M3P Camera Control Unit is connected to the camera, set the master pedestal level from the CCU or RM-M7G Camera Remote Control Unit.

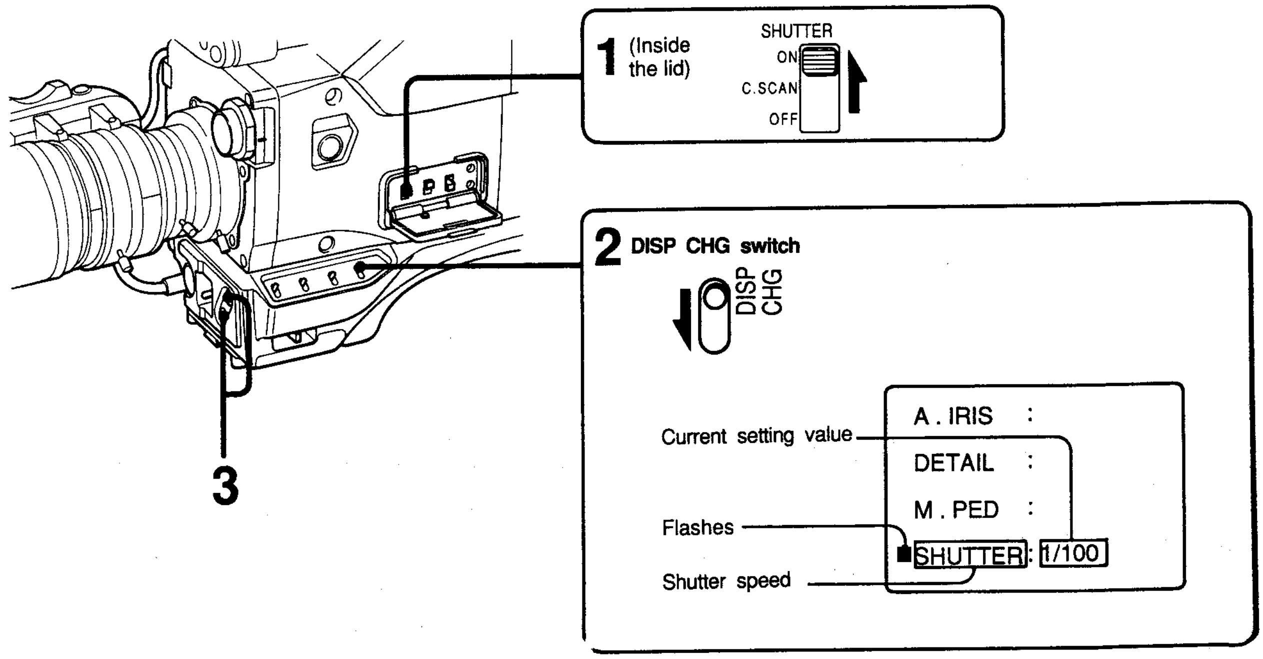
Selecting the Shutter Speed

The shutter speed is factory set to 1/100 for NTSC and 1/60 for PAL. You can change the shutter speed if necessary. Select the shutter speed from the following:

For NTSC: 1/100, 1/250, 1/500, 1/1000, 1/2000
For PAL: 1/60*, 1/250, 1/500, 1/1000, 1/2000.

Your selection is retained in the memory of the camera.

Selecting the Shutter Speed


1 (Inside the lid)
SHUTTER
ON
C.SCAN
OFF
2 DISP CHG switch
DISP CHG
Current setting value
A . IRIS :
DETAIL :
M . PED :
SHUTTER : 1/100
Flashes
Shutter speed
3

1 To change the shutter speed, set the SHUTTER switch on the camera head to ON.

2 Press the DISP CHG switch several times until the display above appears on the display screen. If the SHUTTER switch is set to OFF, "OFF" appears at the current setting value.

3 Select the shutter speed.

To increase the shutter speed value
Press the UP/ON button on the camera head.
To decrease the value
Press the DOWN/OFF button on the camera head.
To reset the value to 1/100 (for NTSC) or 1/60 (for PAL)
Press the UP/ON and DOWN/OFF buttons simultaneously.

---

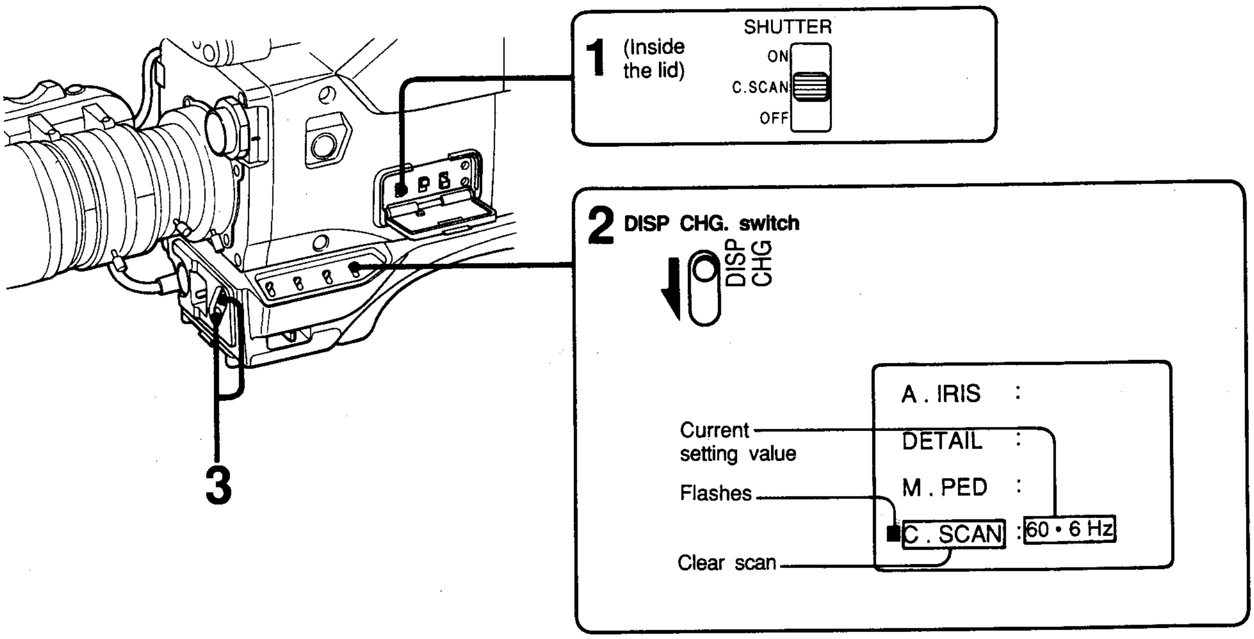
*When you are using the RM-M7G to control the camera, the 1/100 setting on the RM-M7G sets the camera shutter speed to 1/60 and "1/60" appears on the screen display in the viewfinder. This is to prevent flickering when you are shooting a CRT screen.

Using the Clear Scan Function

The Clear Scan function decreases the slant noise when you are shooting a computer screen using this camera. This is necessary since the scanning speed of the computer differs from that of the camera.
While watching the monitor or viewfinder screen, you can adjust for slant noise by pressing the UP/DOWN button for the appropriate frequency listed below (displayed in Hz).

NTSC	60.4 to 101.1 Hz
PAL	50.3 to 101.1 Hz

Using the Clear Scan Function to Decrease Slant Noise


1 (Inside the lid)
SHUTTER
ON
C.SCAN
OFF
2 DISP CHG. switch
DISP CHG
A . IRIS :
DETAIL :
M . PED :
C . SCAN : 60 • 6 Hz
Current setting value
Flashes
Clear scan
3

1 Set the CLEAR SCAN switch on the camera to ON.

2 Press the DISP CHG switch until the above screen appears in the viewfinder display.

3 Change the setting value.

To increase the Clear Scan setting value
Press the UP/ON button on the camera.
To decrease the value
Press the DOWN/OFF button on the camera.
To reset to the minimum value
Press the UP/ON and DOWN/OFF buttons at the same time.

The amount the frequency changes by each press is not the same. The displayed frequency is the approximated frequency.
The frequency you have selected is stored in the memory of the camera and is retained even after the power is turned off.
When the CCU-M7/M7P,CCU-M3/M3P, or RM-M7G is connected, change the Clear Scan frequency using the UP/DOWN button on the camera.

Note on the scanning frequency difference
The scanning frequency of CRT monitors differs among brands. Therefore, even with the Clear Scan, the noise may not decrease remarkably in some cases. The frequency may change depending on the software running on the computer at the time. Readjust the frequency in this case. Use the following recommended frequencies to help you:

Apple Macintosh*II series	66.7 Hz
IBM PS/2* series (720 x 400)	70.1 Hz

* Macintosh is a trademark of Apple Computer Inc. and PS/2 is a registered trademark of International Business Machines Corporation.

Advanced Operations

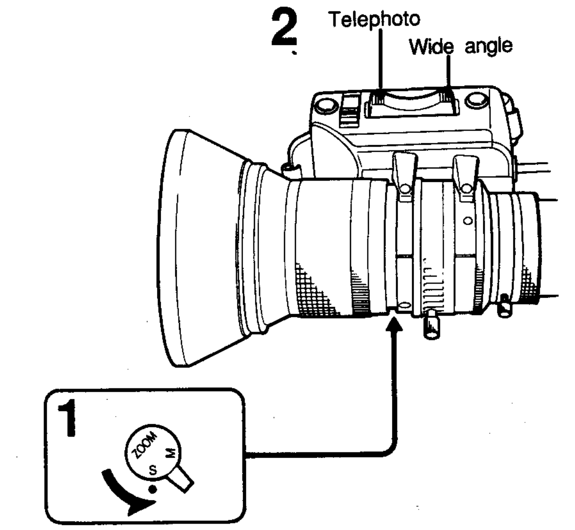
The following section explains procedures for using the zoom lens, adjusting the picture output, adjusting output levels, and synchronizing two or more cameras superimposing title characters.

Doing Close-Ups and Wide-Angle Shots

You can go from wide angle to telephoto shots by using the motorized zoom or doing the zoom manually.

Motorized Zoom

The Lens with Zoom Attached



1 Set the ZOOM selector to the "S" (servo) position.

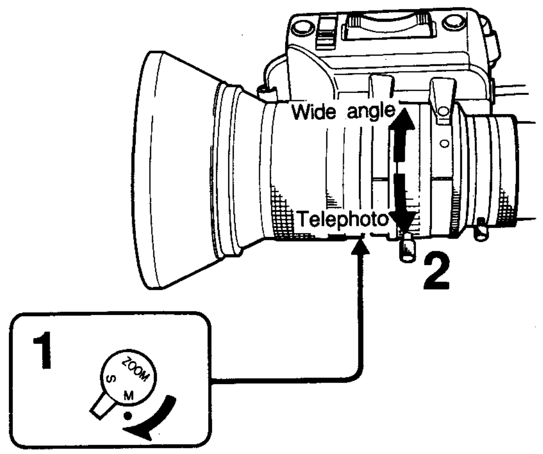
2 Press either end of the motorized zoom switch.

To zoom faster, press all the way down on the motorized zoom switch. Press the switch lightly to zoom more slowly.

Manual Zoom

Manual zoom allows more precise control over the zooming speed.

Setting Wide Angle and Telephoto Zoom



1 Set the ZOOM selector to the "M" (manual) position.

2 Position the Manual zoom lever to the appropriate angle.

Tips on Using the Zoom

Correct Focusing
If the subject is in focus in the telephoto position, it will remain in focus when you zoom back to wide angle.

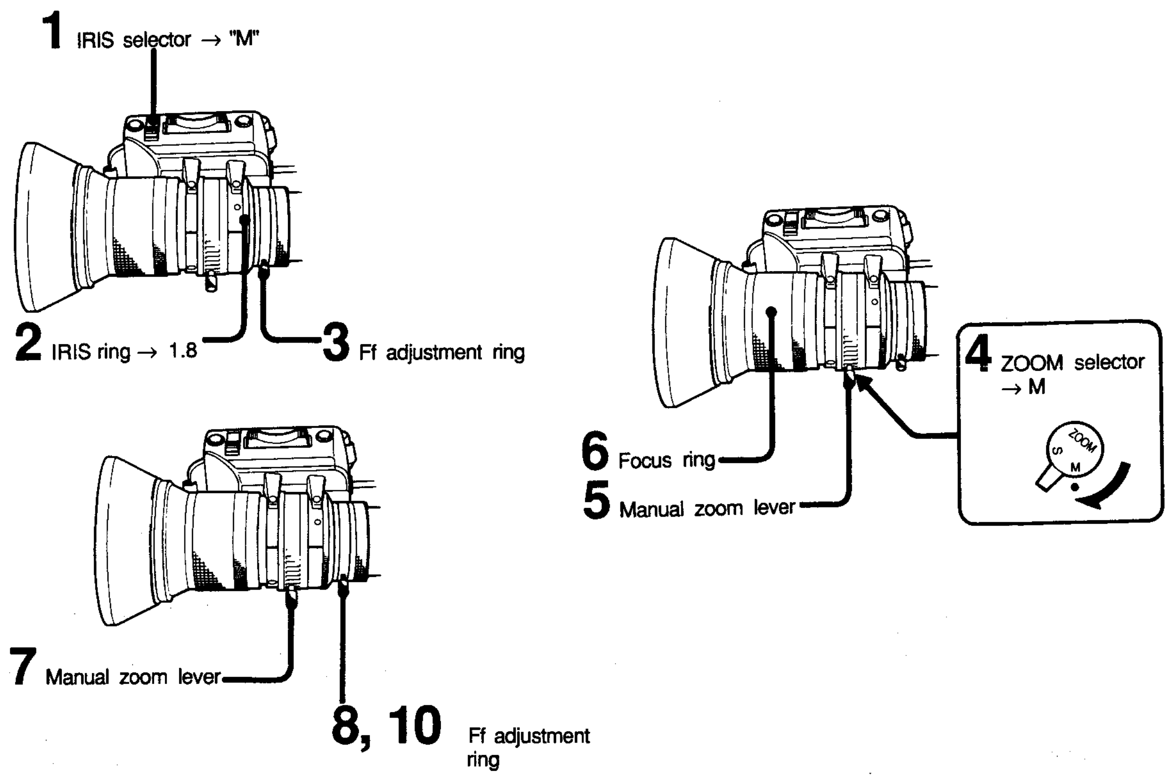
For a more stable picture
We recommend placing the camera on a tripod when using the zoom. If you zoom with the camera on your shoulder, stand as steadily as possible.

Positioning the object at the center of the screen
For zoom-in, adjust the focus in the telephoto position, and set to the wide angle position. Then start to zoom in. Make sure that the object stays at the center of the screen while you are using the zooming.

Keeping the Shot in Focus — Adjusting the Focal Flange Length

The proper flange length adjustment ensures that the object is in focus both at the wide-angle and telephoto position when using the zoom. Once you have made the flange focal length adjustment, you do not have to re-adjust the lens as long as the lens stays on the same camera.

Adjusting the Focal Flange


1 IRIS selector → "M"
2 IRIS ring → 1.8
3 Ff adjustment ring
4 ZOOM selector → M
ZOOM
S
M
6 Focus ring
5 Manual zoom lever
7 Manual zoom lever
8, 10 Ff adjustment ring

1 To adjust the focal flange, set the IRIS selector to M.

2 Set the iris ring to 1.8.
Position the supplied chart for iris adjustment and illuminate the chart so that the proper video level is reached when the iris ring is at 1.8.

3 Loosen the screw on the Ff adjustment ring.

4 Set the ZOOM selector to M.

5 Turn the manual zoom lever to 152, telephoto position.

6 Turn the focus ring until the chart is in focus at about three meters (10 feet) from the lens.

7 Turn the manual zoom lever to 9.5, wide-angle position.

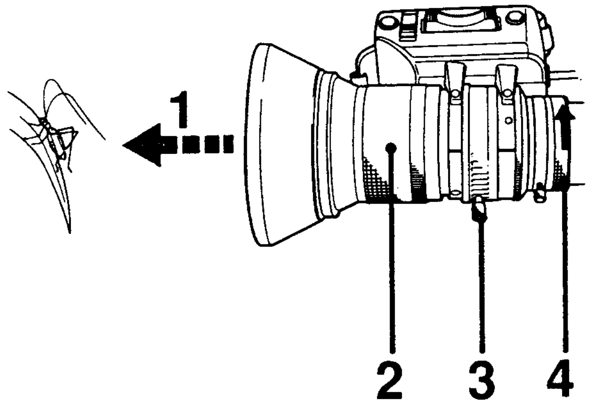
8 Turn the Ff adjustment ring and focus on the chart used in Step 6.

9 Repeat Steps 5 through 8 until the chart is in focus both at the telephoto position and at the wide-angle position.

10 Tighten the screw on the Ff adjustment ring firmly.

Doing Close-Ups — Shooting Small or Nearby Objects

The Close-Up or Macro function on the DXC-537 series camera lets you zoom in tightly on flowers, insects, and even photographs without distortion. The minimum distance from the lens to the object is 70 mm (2⁷/₈ inches) in the 9.5 wide-angle zoom position.



1	Adjust the distance between the lens and the object to get the desired image size.
2	Set the focus ring to the ∞ (infinity) setting.
3	Turn the MACRO ring until it stops while pushing the button in the direction of the MACRO arrow.
4	Focus on the object by turning the manual zoom lever with the ZOOM selector set to M.
5	When the close-up operation is complete, return the MACRO ring to its original position.

If you want to reduce the object's size on screen

1	Follow Steps 1 through 4 above.
2	Turn the MACRO ring slightly toward its original position and adjust the focus with the manual zoom lever again.

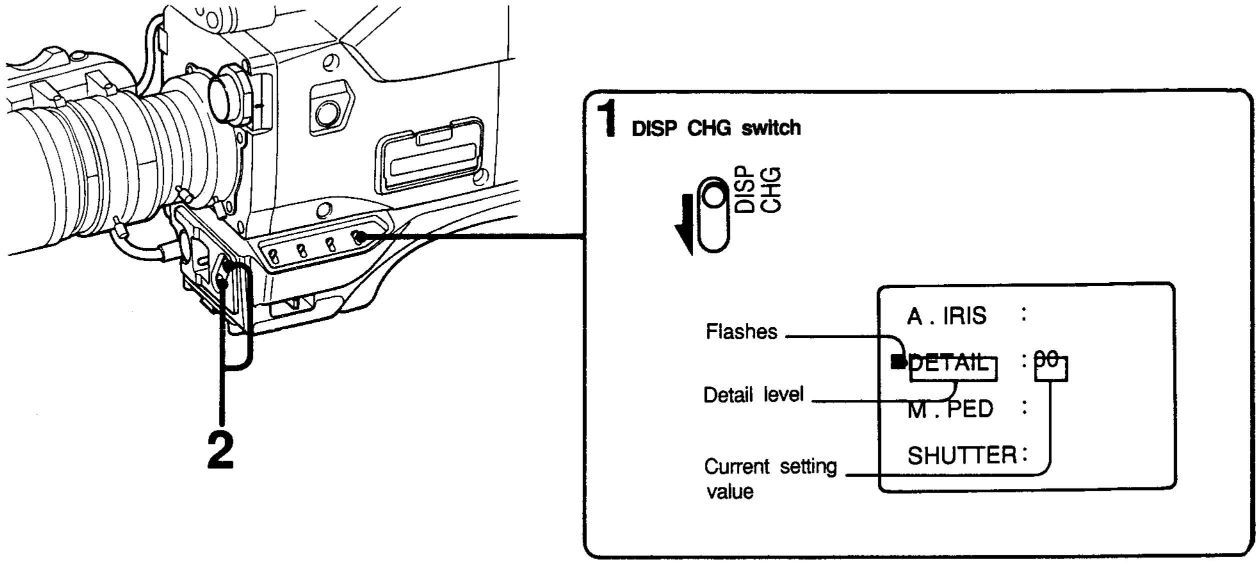
Note on the Focus Ring

If the focus ring is set to ∞ (infinity) while the MACRO ring is turned to "MACRO," the focus can be continually adjusted from the close-up position to ∞ (infinity) with the manual zoom lever.

Adjusting the Sharpness of the Picture

You can increase (harden) or decrease (soften) the sharpness of the picture. Change the value of the detail level to increase or decrease the sharpness. The detail level can be set from –99 to +99 of the factory-set reference level (00).

Changing the Value of the Detail Level



1 Press the DISP CHG switch several times until the above display appears on the viewfinder.

2 Change the value of the detail level.

To increase the value
Press the UP/ON button on the camera head.
To decrease the value
Press the DOWN/OFF button on the camera head.
To reset the value to the reference level
Press the UP/ON and DOWN/OFF buttons simultaneously.

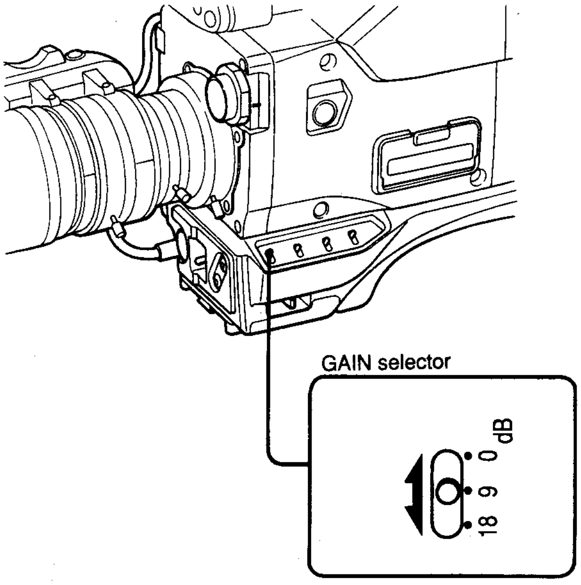
If you increase the video output level when you increase the detail level, the noise in the picture increases.

When using the RM-M7G
When the RM-M7G Camera Remote Control is connected to the camera, the detail level can be changed from the RM-M7G.

Selecting the Output Level

If you cannot get a clear picture because of insufficient light, set the GAIN selector to a higher or lower position. (The GAIN selector is normally set to "0 dB".)
The video output level can be raised by 9 dB by setting the GAIN selector to "9 dB" and by 18 dB by setting the selector to "18 dB".

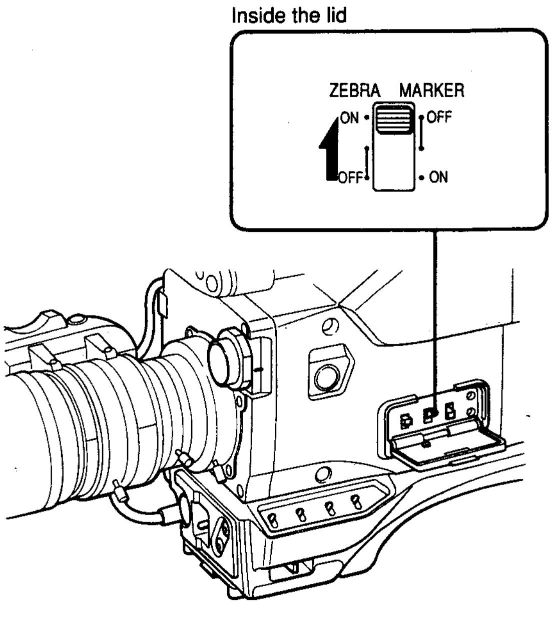
Setting the Gain Selector



Checking the Video Level

Use the zebra pattern (generated by the camera) as a reference when adjusting the iris manually. The zebra pattern indicates areas of the picture where the video level is approximately 70% to 80% (for NTSC) or 490 mV to 560 mV (for PAL):
When the ZEBRA switch is set to ON, a zebra pattern appears on the part of the viewfinder screen where the video output level is 70 to 80 IRE or 490 to 560 mV.
Adjust the iris so that the zebra pattern appears over the subject being shot (for example, the face of a back-lit person).
If it is not necessary to use the zebra pattern to adjust the iris, set the ZEBRA switch to OFF.

Setting the Zebra Switch



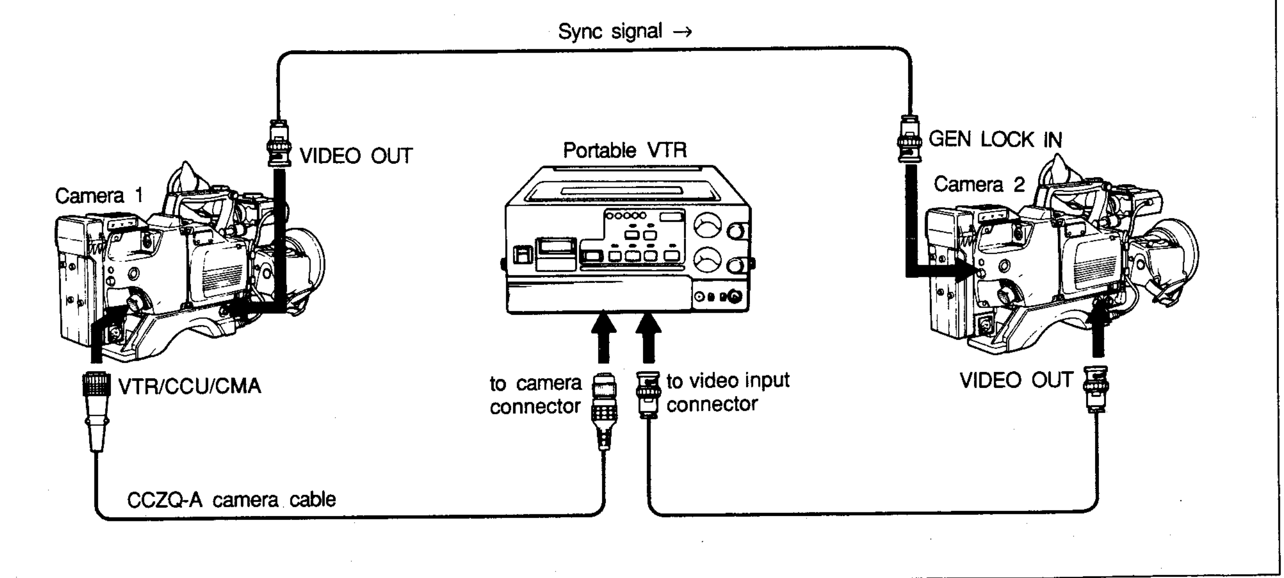
Synchronizing Two or More Cameras (Without Using a Camera Control Unit)

When a BS or VBS signal is connected to the GEN LOCK IN connector on the camera adaptor, the camera synchronizes with the connected signal. Use the GEN LOCK IN connector when you are using two or more cameras without a camera control unit. (See the illustrations below for sample connections.)

Connecting Two Cameras or More Cameras to a VTR

The illustration below gives an example of how to connect two cameras with a VTR.

Camera 2 Synchronizes with Camera 1

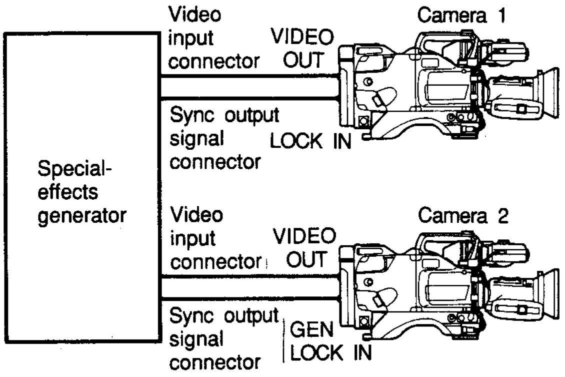

Sync signal →
VIDEO OUT
Portable VTR
GEN LOCK IN
Camera 1
Camera 2
VTR/CCU/CMA
to camera connector
to video input connector
VIDEO OUT
CCZQ-A camera cable

Connecting Two or More Cameras and a Special-Effects Generator

When two or more cameras are used simultaneously in connection with a special-effects generator, supply each camera with the same reference signal and adjust each camera to get the same picture tone. Adjust the SC (subcarrier) phase and the H (horizontal) phase following the procedures and illustration described below.

1. Do a rough subcarrier phase adjustment using the SC phase selector.
2. Make the fine adjustment using the SC PHASE control and a vectorscope.
3. Adjust the horizontal phase using the H PHASE control and a waveform monitor or oscilloscope.

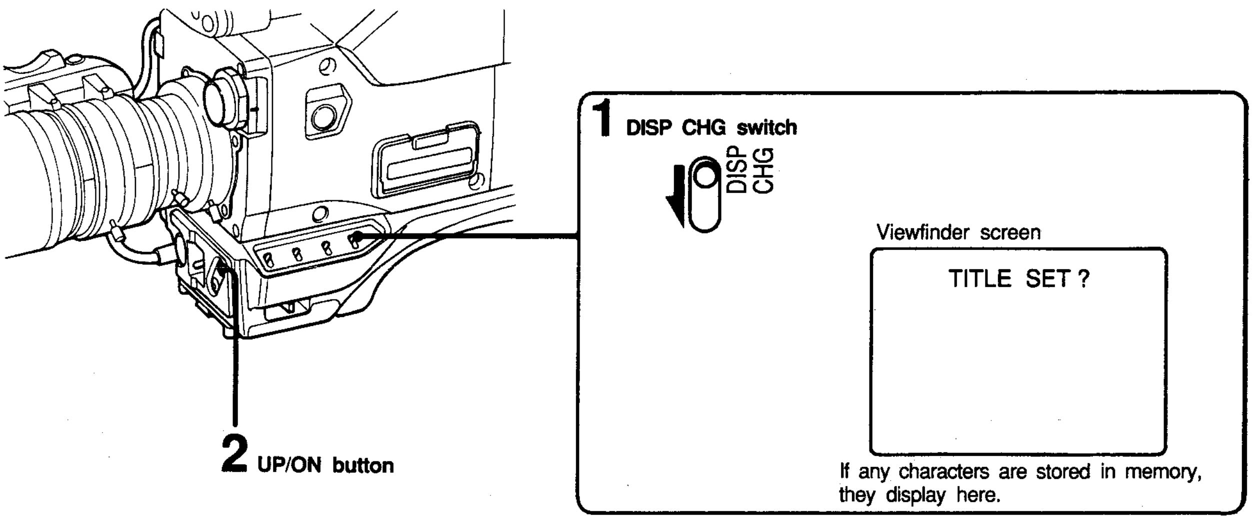
Camera 1 and Camera 2 Synchronize with a Special-Effects Generator


Video input connector
VIDEO OUT
Camera 1
Sync output signal connector
LOCK IN
Special-effects generator
Video input connector
VIDEO OUT
Camera 2
Sync output signal connector
GEN LOCK IN

Setting Title Characters Through the Viewfinder

This camera contains a built-in character generator that allows you to superimpose characters over the picture being shot. Both the picture and the superimposed characters appear on the monitor screen. If a recording VTR is connected to the camera, the superimposed characters can be recorded on the VTR.

Preparation


1 DISP CHG switch
DISP CHG
Viewfinder screen
TITLE SET ?
If any characters are stored in memory, they display here.
2 UP/ON button

1 Press the DISP CHG switch several times until the above indication appears on the viewfinder display screen.

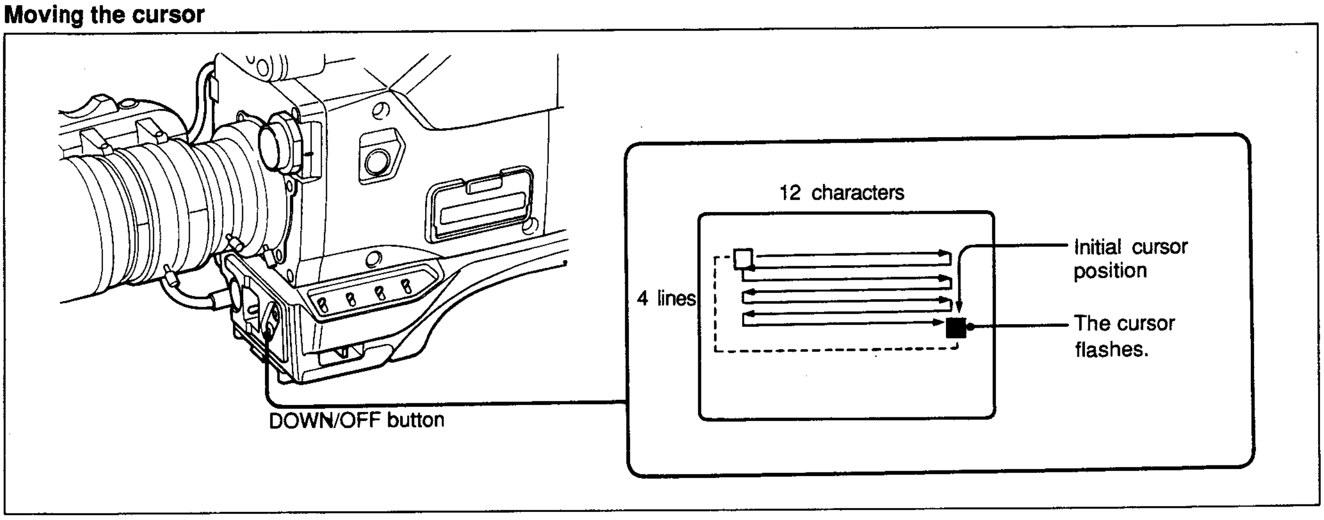
2 To put the camera into the title setting mode, press the UP/ON button.

To clear all the memorized characters
Press the UP/ON and DOWN/OFF buttons at the same time.

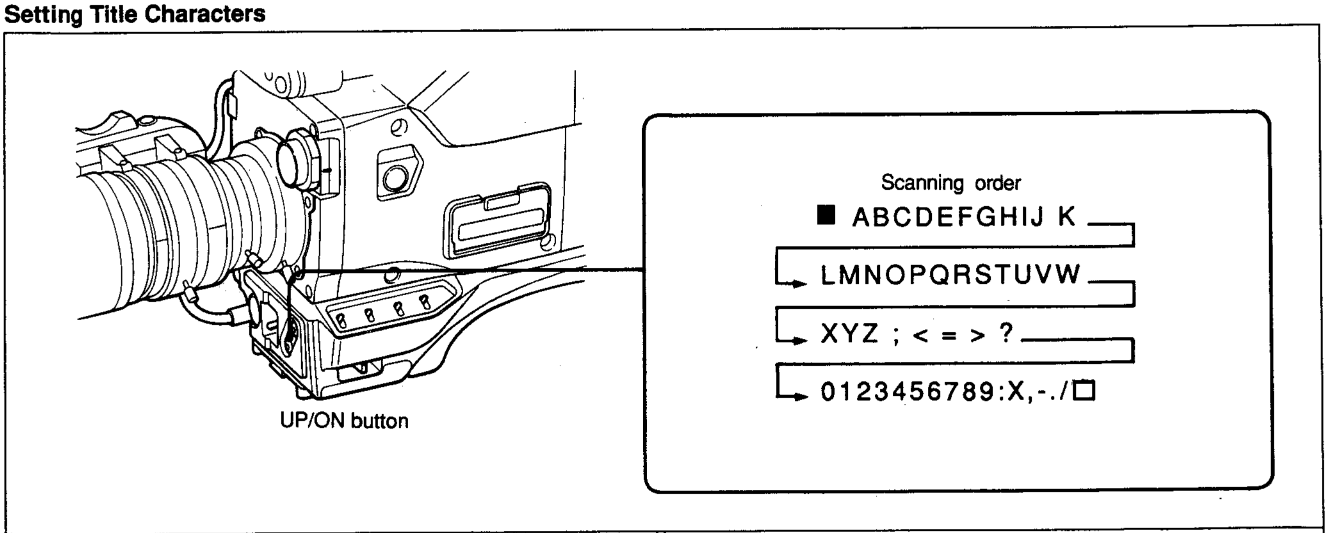
Character Setting procedures

Set title characters one by one choosing them from the display using the UP/ON and DOWN/OFF buttons. Up to 12 characters can display on one line. Up to 4 lines can be displayed. Title characters, once set, remain in the memory of the camera, and are not erased when the power is turned off.

Moving the cursor


12 characters
4 lines
Initial cursor position
The cursor flashes.
DOWN/OFF button

Setting Title Characters


Scanning order
■ ABCDEFGHIJ K
LMNOPQRSTUVW
XYZ ; < = > ?
0123456789:X,-./□
UP/ON button

1 To set characters and letters from the display, press the UP/ON button repeatedly until the cursor flashes on the character you want to set.

To change the characters in reverse alphabetical order
While pressing the UP/ON button, press the DOWN/OFF button.

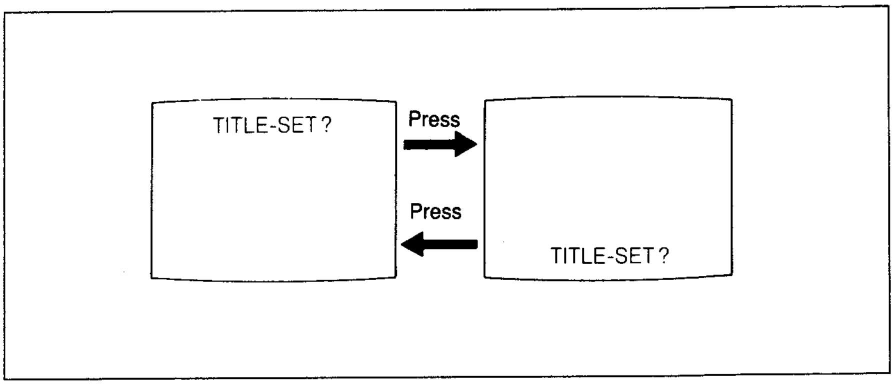
2 Press the DOWN/OFF button to set the selected character.
The cursor moves one space to the right.

3 Repeat the above steps 1 and 2 to set all the characters.

To move the cursor to the right
Press the DOWN/OFF button repeatedly to move the cursor.

To move the cursor to the left
While pressing the UP/ON button, press the DOWN/OFF button repeatedly.

To replace a character
Return the cursor to the position of the character you want to replace, select the desired character with the UP/ON button, and press the DOWN/OFF button. The characters must be changed one by one as described in the above procedure.



To change the position of the title characters
Press the DOWN/OFF button.

When Using a VO-8800/8800P Portable VTR
If you are using a VO-8800/8800P Portable VTR, do not use the upper character display area because the VTR tape remaining time shows here. Use only the lower character display area.

To exit character setting mode
Press the DISP CHG switch.

The Next Time You Use the Camera

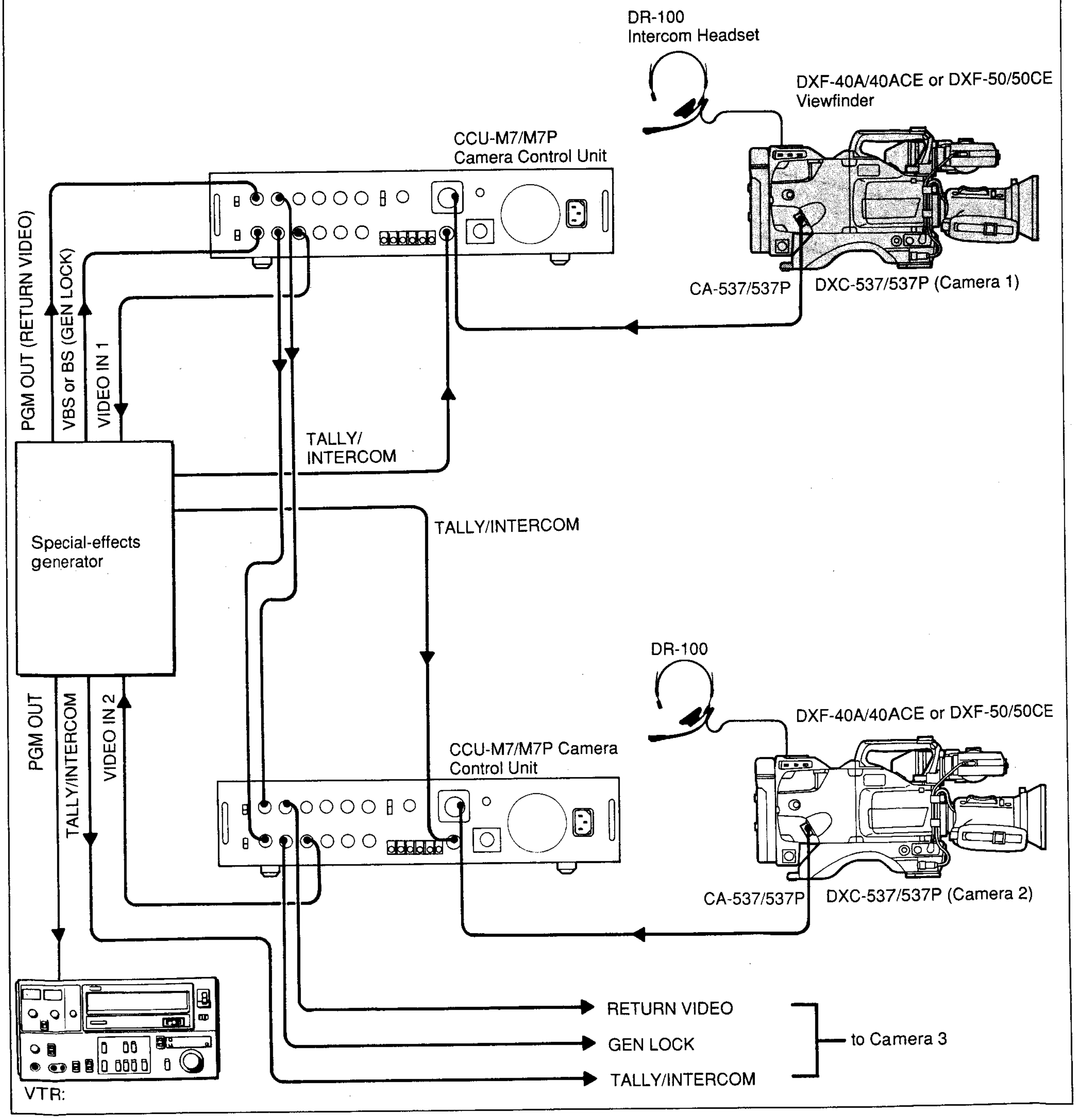
When you turn on the camera, the memorized characters display on the viewfinder screen at step 1 of "Preparation" (see page 1-52). To display the characters on the monitor screen and output them to the VTR, press the UP/ON button.

Using the Camera in a Studio

When you are using more than two cameras simultaneously in a video studio, you need a special-effects generator, such as the Sony SEG-2550A, to do wipe effects and switching between equipment. You also need a CCU-M7/M7P Camera Control Unit to match picture quality and color between cameras (see "Connecting a Camera Control Unit" on page 1-20).

Refer to the illustration below for how to connect the above mentioned and other optional equipment.

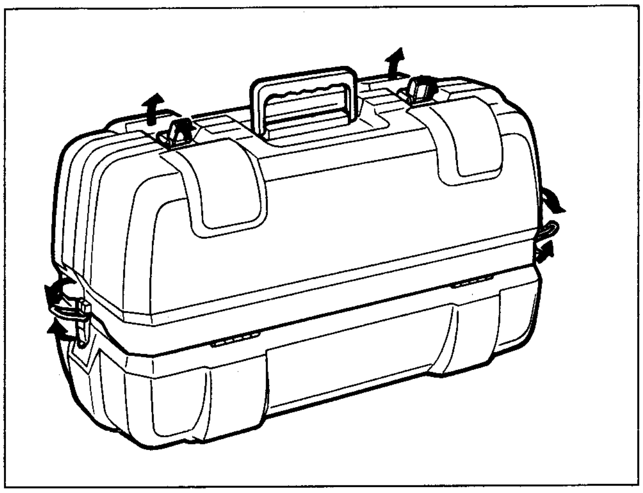
Connecting a Special-Effects Generator and a CCU for Studio Use


DR-100
Intercom Headset
DXF-40A/40ACE or DXF-50/50CE
Viewfinder
CCU-M7/M7P
Camera Control Unit
CA-537/537P
DXC-537/537P (Camera 1)
PGM OUT (RETURN VIDEO)
VBS or BS (GEN LOCK)
VIDEO IN 1
TALLY/
INTERCOM
TALLY/INTERCOM
Special-effects
generator
DR-100
DXF-40A/40ACE or DXF-50/50CE
CCU-M7/M7P Camera
Control Unit
PGM OUT
TALLY/INTERCOM
VIDEO IN 2
CA-537/537P
DXC-537/537P (Camera 2)
RETURN VIDEO
GEN LOCK
TALLY/INTERCOM
to Camera 3
VTR:

Handling the Carrying Case

Opening the Carrying Case

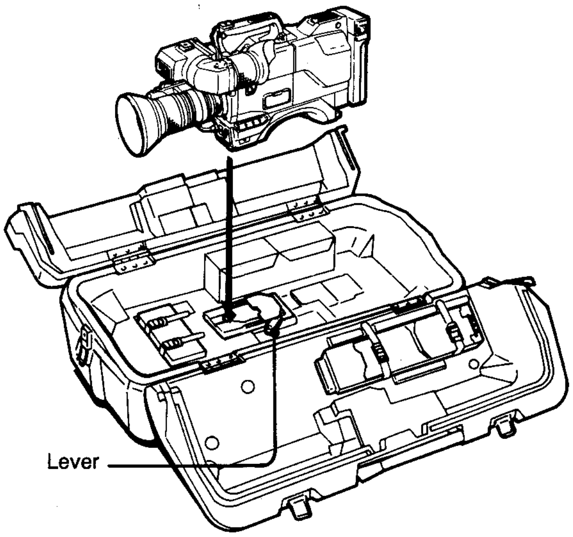
To open the camera carrying case, release the four catches at the edge of the case, then open the case from the upper part.



Packing the Camera in the Case

1 Align the camera to the attachment on the bottom of the case.

2 Slide the camera forward and fasten the camera to the case.



1-4. COLOR VIDEO CAMERA OVERVIEW

Optional Accessories and Recommended Equipment

Lens and Accessories
Zoom lens: VCL-916BY
Lens remote control unit: LO-23
Tripod attachment: VCT-14

Camera Adaptor
Camera adaptor: CA-537/537P, CA-327/327P, CA-511/325A/325AP/325B
Camera adaptor: CMA-8A/8ACE
Camera remote control unit: RM-M7G

VTR
Hi8 format video cassette recorder: EVV-9000/9000P
Portable video cassette recorder: VO-8800/8800PS
Betacam SP Portable Recorder: BVW-35/35P
SP-Umatic video cassette recorder: BVU-150/150P

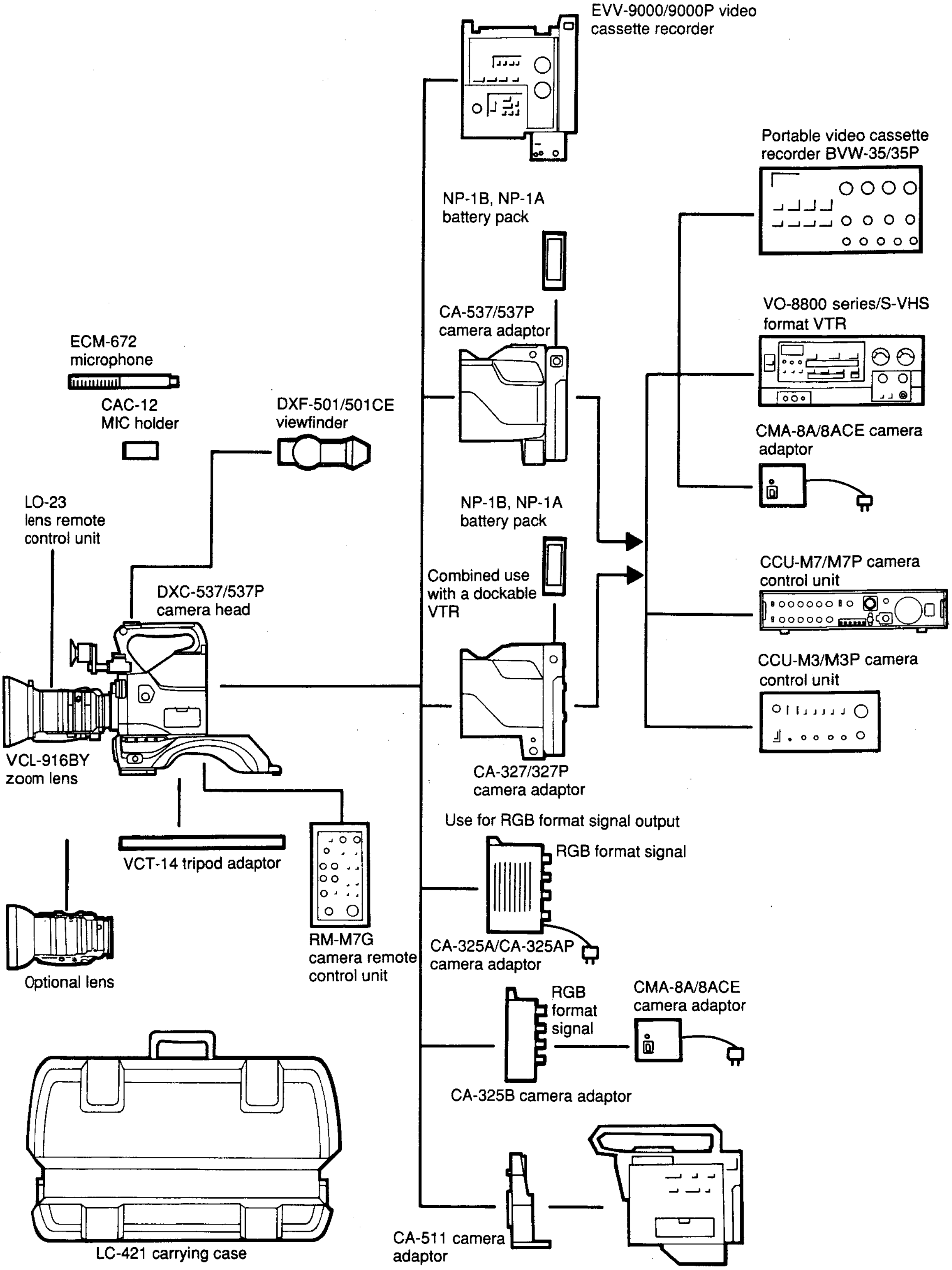
Battery Pack and Charger
Battery pack: NP-1B, NP-1A
Battery charger: BC-1WB, BC-1WA

Microphone and Accessories
Condenser microphone: ECM-672, C74
Microphone holder: CAC-12
Microphone cable: EC-0.5C2

Equipment for Studio Use
Camera control unit CCU-M7/M7P
Camera control unit: CCU-M3/M3P
Special-effects generator: SEG-2550/2550P
Universal chroma keyer: CRK-2000
Wipe pattern extender: WEX-2000/2000P
Electronic viewfinder: DXF-50/50CE
Electronic viewfinder: DXF-40A/40ACE
Electronic viewfinder: DXF-501/501CE
Intercom headset: DR-100
Rack mounting metal: RMM-1800

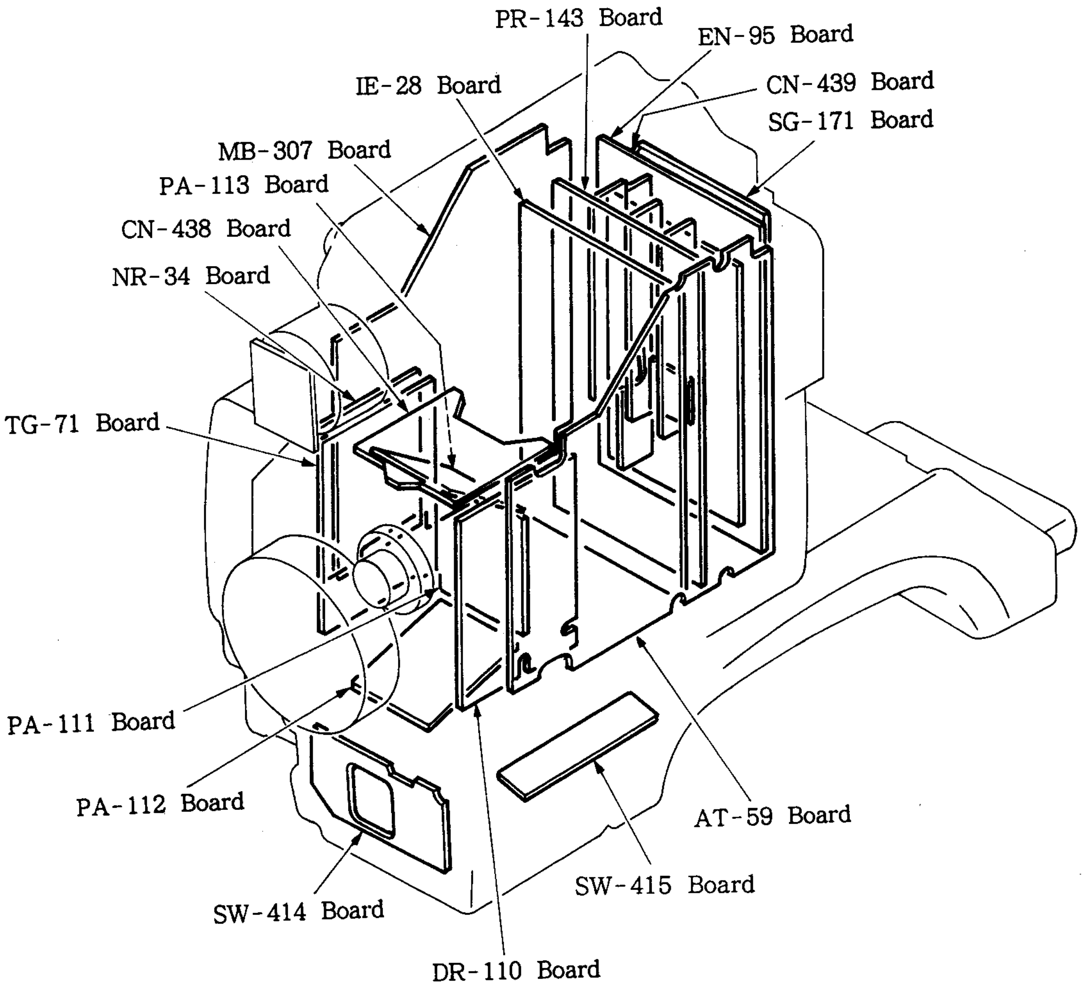
Camera Cable and Others
Camera cable with Z-type 26 pin connector:
CCZ-A2, CCZ-A5, CCZ-A10
CCZ-A25, CCZ-A50, CCZ-A100
Camera cable with Z-type 26 pin and Q-type 14 pin connector:
CCZQ-A2, CCZQ-A5, CCZQ-A10
CCZQ-A2AM
Camera cable with Q-type 14-pin connector: CCQ-2BRS, CCQ-5BRS, CCQ-10BRS
Camera cable with Q-type 14-pin connector: CCQ-10AM, CCQ-20AM, CCQ-50AM, CCQ-100AM
Camera cable with Z-type 26-pin and J-type 10-pin connectors: CCZJ-2
Cable extension adaptor:
CCZZ-1B, CCZZ-1E
Carrying case: LC-421
Camera rain cover: LCR-1

Sample Video System Configuration


EVV-9000/9000P video cassette recorder
Portable video cassette recorder BVW-35/35P
NP-1B, NP-1A battery pack
VO-8800 series/S-VHS format VTR
CA-537/537P camera adaptor
ECM-672 microphone
CAC-12 MIC holder
DXF-501/501CE viewfinder
CMA-8A/8ACE camera adaptor
LO-23 lens remote control unit
NP-1B, NP-1A battery pack
CCU-M7/M7P camera control unit
Combined use with a dockable VTR
DXC-537/537P camera head
CCU-M3/M3P camera control unit
VCL-916BY zoom lens
CA-327/327P camera adaptor
Use for RGB format signal output
RGB format signal
VCT-14 tripod adaptor
CA-325A/CA-325AP camera adaptor
RM-M7G camera remote control unit
Optional lens
RGB format signal
CMA-8A/8ACE camera adaptor
CA-325B camera adaptor
LC-421 carrying case
CA-511 camera adaptor

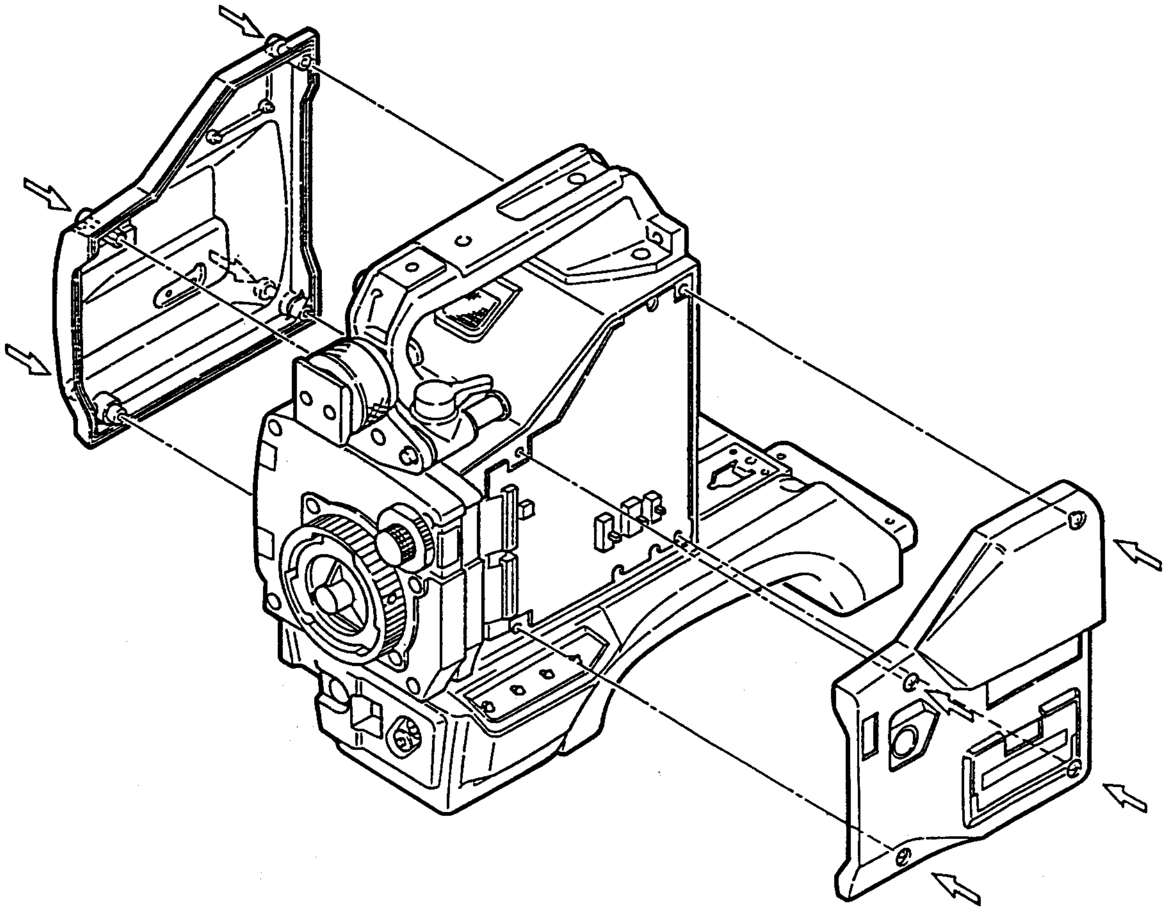
SECTION 2
SERVICE INFORMATION

2-1. BOARD LAYOUT


PR-143 Board
EN-95 Board
IE-28 Board
CN-439 Board
SG-171 Board
MB-307 Board
PA-113 Board
CN-438 Board
NR-34 Board
TG-71 Board
PA-111 Board
PA-112 Board
AT-59 Board
SW-415 Board
SW-414 Board
DR-110 Board

2-2. REMOVAL OF CABINET

Loosen the four screws to remove each side cover.

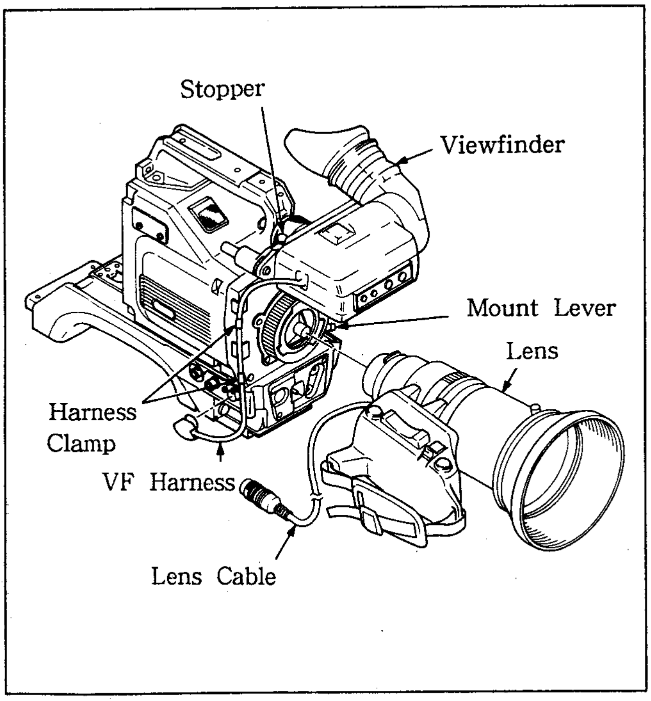


2-3. REPLACEMENT OF MAIN PARTS

2-3-1. Replacement of CCD Unit

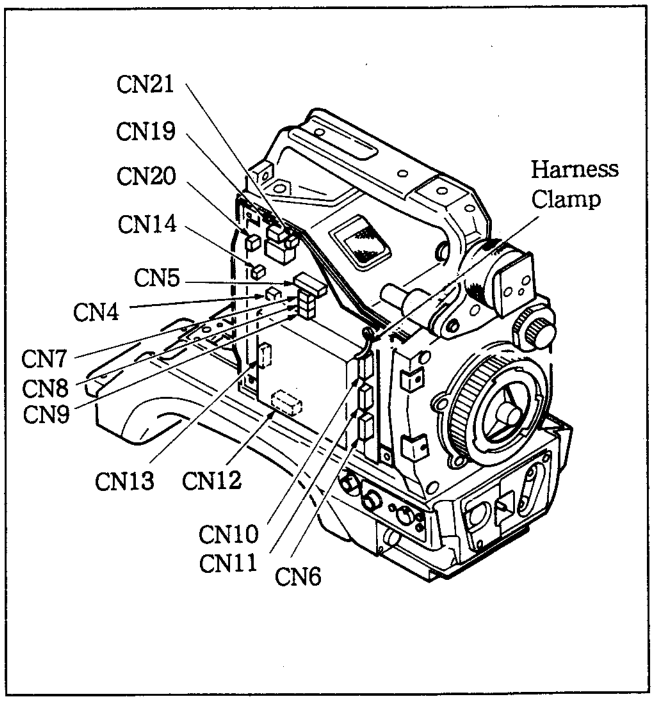
Note : When replacing the CCD block, replace it together with the CCD unit.

1. Remove the lens and lens cable. Then, release the VF harness from the harness clamp.
   Note : Do not remove the front cap.

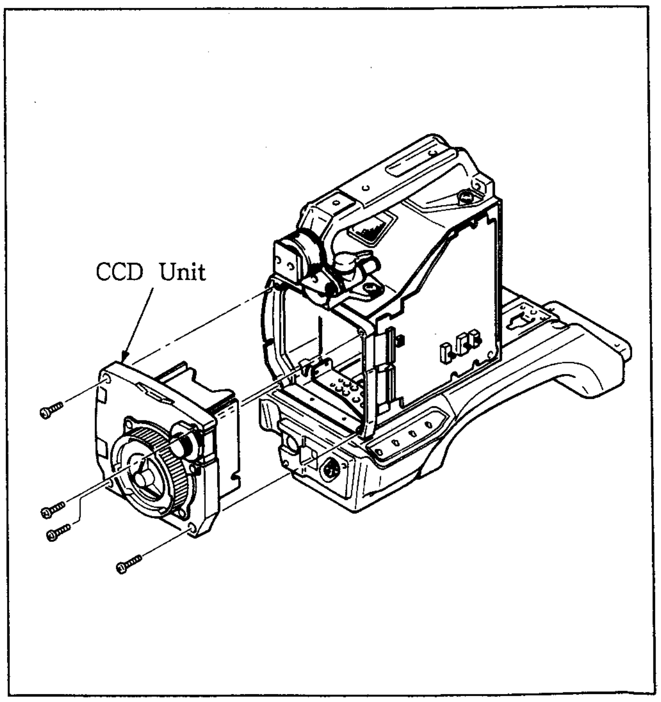

Stopper
Viewfinder
Mount Lever
Lens
Harness Clamp
VF Harness
Lens Cable

2. Remove the left side panel assembly, referring to Section 2-2 "REMOVAL OF CABINET"

3. Disconnect the seven connectors CN4, CN5, CN6, CN7, CN8, CN9, and CN21, on the MB-307 board. Release the harness from the harness clamp.


CN21
CN19
CN20
CN14
CN5
CN4
CN7
CN8
CN9
CN13
CN12
CN10
CN11
CN6
Harness Clamp

4. Remove the four screws of the CCD unit and pull out the CCD unit.



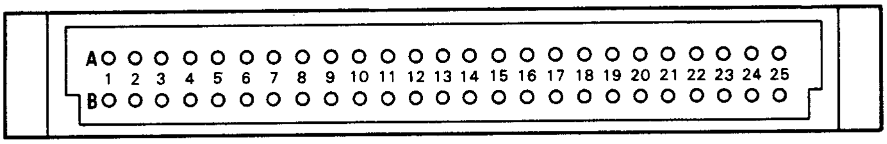
2-4. CONNECTORS AND CABLES

2-4-1. Connector Input /Output Signals

The main connector input/output signals are as follows :

VIDEO OUT (BNC) ; 1.0Vp-p ± 0.1V, sync negative 75 Ω

CAMERA/CA (50P)



(EXIT VIEW)

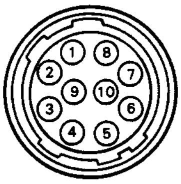
Pin No.	Signal	Specification
A 1	MODE ID	OPEN:COMP, GND:R/G/B
B 1	GND(CHASSIS)	
A 2	MIC(Y) OUT	−60dBm
B 2	MIC(X) OUT	
A 3	MIC(G) OUT	
B 3	(SPARE)	
A 4	REC TALLY IND IN	Zi≧600Ω
B 4	(SPARE)	
A 5	VTR START/STOP OUT	
B 5	(SPARE)	
A 6	(SPARE)	
B 6	(SPARE)	
A 7	(SPARE)	
B 7	(SPARE)	
A 8	GENLOCK VIDEO(G) IN	Zi≧1kΩ
B 8	GENLOCK VIDEO(X) IN	
A 9	SYNC(G) OUT	H :4.0~5.5Vp-p :negative L :0±0.4Vdc Zo≦2kΩ
B 9	SYNC(X) OUT	
A10	PB RET VIDEO(G) IN	Zi≧10kΩ
B10	PB RET VIDEO(X) IN	
A11	COLOR FRAMING PULSE	H :4.0~5.5Vp-p Zo≦2kΩ L :0±0.4Vdc
B11	VF VIDEO CONT IN	CAM:OPEN Zi≧1kΩ, PB:0V
A12	VBS(G) OUT	1.0Vp-p, negative sync Zo=75Ω±5%
B12	VBS(X) OUT	
A13	VTR SAVE CONT OUT	STBY:4.0~5.5Vp-p Zo≦100Ω SAVE:0±0.25V
B13	VTR/CCU CONT OUT	VTR :0±0.25V Zo≦1kΩ CCU :5.0±0.5V

Pin No.	Signal	Specification
A14	CHROMINANCE(G) OUT	NTSC :0.286Vp-p±10% PAL, PALM :0.300Vp-p±10% Zo≦75Ω±5%
B14	CHROMINANCE(X) OUT	
A15	LUMINANCE(G) OUT	1.0Vp-p, negative sync. Zo≦75Ω±5%
B15	LUMINANCE(X) OUT	
A16	VIDEO GND OUT	R/G/B 1.4Vp-p, positive Zo≦75Ω±5% component out *1
B16	R/R-Y VIDEO OUT	
A17	G/Y VIDEO OUT	
B17	B/B-Y VIDEO OUT	
A18	BATT ALARM/S. DATA	
B18	REC REVIEW CONT OUT	GND;rec review
A19	(SPARE)	
B19	(SPARE)	
A20	+8.5V OUT	8.3V~9.1V
B20	+5V OUT	±0.1V
A21	−5V OUT	±0.1V
B21	GND	REG, GND
A22	POWER +12V DC IN	10.6V to 17.0Vdc
B22	POWER +12V DC IN	
A23	POWER +12V DC GND	GND for ±12Vdc
B23	POWER +12V DC GND	
A24	(SPARE)	
B24	(SPARE)	
A25	GND(CHASSIS)	CHASSIS GND
B25	GND(CHASSIS)	

*1

	UC	EK	BR
Y	0.714 Vp-p	0.700 Vp-p	0.700 Vp-p
R-Y	0.700 Vp-p	0.525 Vp-p	0.700 Vp-p
B-Y	0.700 Vp-p	0.525 Vp-p	0.700 Vp-p

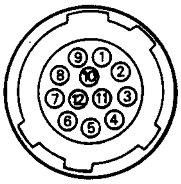
REMOTE (10P, FEMALE)



(EXIT VIEW)

Pin No.	Signal	Specification
1	(SPARE)	
2	VBS(RM)(X)	1.0Vp-p, sync negative
3	VBS(RM)(G)	
4	(SPARE)	
5	VTR START/STOP IN	Zi≧10kΩ ⊔ —OPEN(4.5±0.5V) —0±0.5V
6	S. DATA(X)	0 to 5V Zi≧10kΩ
7	S. DATA GND	GND for S. DATA
8	REC TALLY IND OUT	Zi≧600Ω
9	POWER +12V DC GND	GND for +12Vdc
10	POWER +12V DC OUT	10.6V to 17.0Vdc

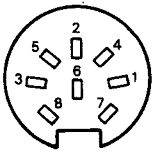
LENS (12P, FEMALE)



(EXIT VIEW)

Pin No.	Signal	Specification
1	VF VIDEO CONT IN	ON:0±0.5Vdc
2	VTR START/STOP IN	TRIG:0±0.5V
3	POWER +12V DC GND	GND for +12Vdc
4	COMPULSORY AUTO IRIS CONT OUT	AUTO:4.5±0.5V MANU:0+0.5V or OPEN
5	IRIS CONT OUT	F16 :3.4Vdc F2.8:6.2Vdc
6	POWER +12V DC OUT	10.6V to 17.0Vdc
7	NC	——
8	NC	——
9	NC	——
10	NC	——
11	NC	——
12	NC	——

VF (8P, FEMALE)



(WIRING SIDE)

Pin No.	Signal	Specification
1	POWER +12V DC GND	GND for +12Vdc
2	REC TALLY IND OUT	Zo≦1.1kΩ
3	E.SHUTTER IND OUT	Zo≦1.1kΩ
4	VF VIDEO (G) OUT	GND for VF VIDEO
5	BATT IND OUT	Zo≦1.1kΩ
6	VF VIDEO (X) OUT	V=1Vp-p
7	POWER +12V DC OUT	10.6V to 17.0Vdc
8	GAIN UP IND OUT	Zo≦1.1kΩ

2-4-2. Connections

Connections made with the connector panels during installation or service, should be made with the connectors or complete cable assemblies specified in the following list, or equivalent parts.

Connector function	Parts No. and name of connector with cable
REMOTE (10P, FEMALE)	1-506-522-11 CONNECTOR, ROUND 10P, MALE HIROSE HR10A-10P-10P equality or CCA-7-20 Cable assembly (optional)
VIDEO OUT (BNC)	1-560-069-11 PLUG, BNC or B-B cable assembly (Cable length 1.5m, optional
VF (8P, FEMALE)	9-994-797-01 CABLE, VF
LENS	1-564-360-11 CONNECTOR, 12P, MALE HIROSE HR10-10PA-12P equality

2-5. INTERNAL SWITCH SETTING

PR-143 board

• S1 (MASKING ON/OFF)

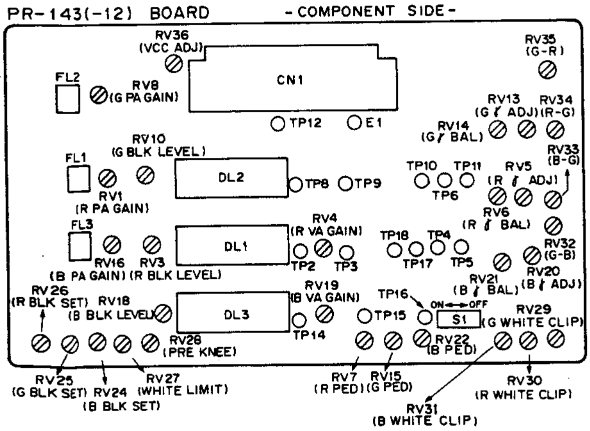
When turned ON, the linear matrix circuit activates to obtain high saturated color reproducibility.
The switch is factory-set to 「OFF」 position.
Set it to 「ON」 position if necessary.

IE-28 board

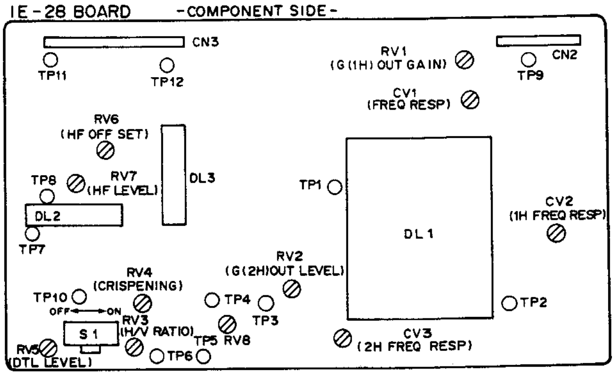
• S1 (DTL ON/OFF)

When turned ON, the detail circuit activates and the image contour is enhanced.
The switch is factory-set to 「ON」 position.
Set it according to use.

PR-143(-12) BOARD -COMPONENT SIDE-


RV36
(VCC ADJ)
RV35
(G-R)
FL2
RV8
(G PA GAIN)
CN1
RV13
(G γ ADJ)
RV34
(R-G)
TP12
E1
RV14
(G γ BAL)
RV10
(G BLK LEVEL)
FL1
RV33
(B-G)
DL2
TP8
TP9
TP10
TP11
RV5
(R γ ADJ)
TP6
RV1
(R PA GAIN)
RV6
(R γ BAL)
FL3
RV4
(R VA GAIN)
DL1
TP18
TP4
RV32
(G-B)
TP2
TP3
TP17
TP5
RV20
(B γ ADJ)
RV16
RV3
(B PA GAIN)
(R BLK LEVEL)
RV21
(B γ BAL)
RV26
(R BLK SET)
RV18
(B BLK LEVEL)
RV19
(B VA GAIN)
TP16
ON↔OFF
DL3
TP15
S1
RV29
(G WHITE CLIP)
TP14
RV28
(PRE KNEE)
RV22
(B PED)
RV25
(G BLK SET)
RV24
(B BLK SET)
RV27
(WHITE LIMIT)
RV7
(R PED)
RV15
(G PED)
RV30
(R WHITE CLIP)
RV31
(B WHITE CLIP)

IE-28 BOARD -COMPONENT SIDE-


CN3
TP11
TP12
RV1
(G (1H) OUT GAIN)
CN2
TP9
CV1
(FREQ RESP)
RV6
(HF OFF SET)
TP8
RV7
(HF LEVEL)
DL3
TP1
DL2
CV2
(1H FREQ RESP)
DL1
TP7
RV2
(G (2H) OUT LEVEL)
RV4
(CRISPENING)
TP10
OFF↔ON
TP4
TP3
TP2
S1
RV3
(H/V RATIO)
TP5
RV8
CV3
(2H FREQ RESP)
RV5
(DTL LEVEL)
TP6

EN-95 board

- S1 (BLKG SEL 19H/20H/21H) …for DXC-537 only

Adjusts the vertical blanking width.
The switch is factory-set to 「20H」.

- S2 (BW/COL)

When set to 「COL」 (color) position, the signal sent from the viewfinder is changed from monochrome to color.
Normally set to 「BW」 position.

AT-59 board

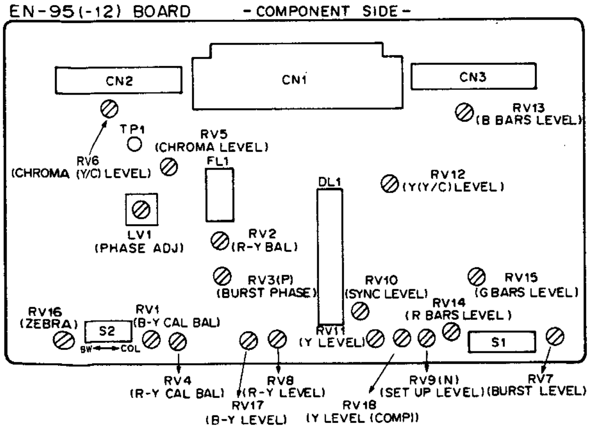
- S1 (OFF/SHUTTER/CLEAR SCAN)

For details on the switch, refer to the DXC-537/537P instruction manual.

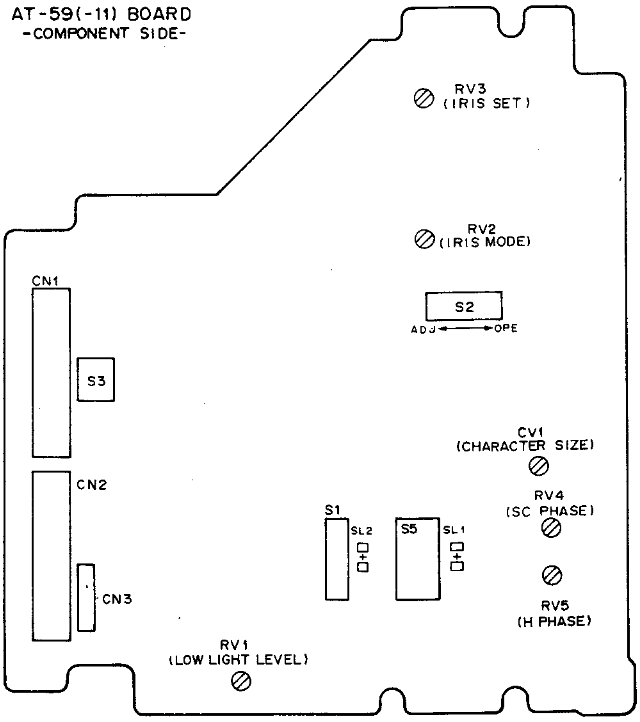
- S2 (ADJ/OPE) *1

When set to 「ADJ」 position, setting values of R GAIN, B GAIN, R PED, B PED, M PED, R DARK, B DARK, and G DARK that are stored in the microcomputer, are all reset to the preset value.
Set it to 「ADJ」 position for adjustment.

EN-95(-12) BOARD -COMPONENT SIDE-


CN2
CN1
CN3
RV13 (B BARS LEVEL)
TP1
RV5 (CHROMA LEVEL)
RV6 (CHROMA (Y/C) LEVEL)
FL1
DL1
RV12 (Y(Y/C) LEVEL)
LV1 (PHASE ADJ)
RV2 (R-Y BAL)
RV3(P) (BURST PHASE)
RV10 (SYNC LEVEL)
RV15 (G BARS LEVEL)
RV14 (R BARS LEVEL)
RV16 (ZEBRA)
S2
SW←→COL
RV1 (B-Y CAL BAL)
RV11 (Y LEVEL)
S1
RV4 (R-Y CAL BAL)
RV8 (R-Y LEVEL)
RV17 (B-Y LEVEL)
RV9(N) (SET UP LEVEL)
RV18 (Y LEVEL (COMP))
RV7 (BURST LEVEL)

AT-59(-11) BOARD -COMPONENT SIDE-


RV3 (IRIS SET)
RV2 (IRIS MODE)
CN1
S2
ADJ←→OPE
S3
CV1 (CHARACTER SIZE)
CN2
RV4 (SC PHASE)
S1
SL2
S5
SL1
CN3
RV5 (H PHASE)
RV1 (LOW LIGHT LEVEL)

∗1. Using the switch S2 (ADJ／OPE), data in memory "EEPROM" can be erased. Proceed as follows.

Procedures

① Set the switch S2 (ADJ／OPE) to「ADJ」position.

② Press the DSP CHG button twice.

③ Make sure the following indication appears on the viewfinder screen.

• ERASE ?
YES - UP SW
NEXT - CHG SW

④ Press the UP／ON button on the front panel.

⑤ Make sure the following indication appears on the viewfinder screen.

ERASE
OK

(The display returns to normal display in about three seconds.)

⑥ Reset the switch S2 (ADJ／OPE) to「OPE」position.

As mentioned above, memorized setting values are all reset to the preset value shown in the table. Ordinarily, you do not need to erase the memory.

ITEM	PRESET STATE
SHUTTER SPEED	1／100(NTSC), 1／60(PAL)
C. SCAN	Minimum value
AUTO WHT／AUTO BLK	Adjusted value is preset
A. IRIS／DTL／M. PED	Setting value is preset
TITLE CHARACTERS	All erased

- S3 (REC REVIEW)
- S4 (SC 0／180)
- S5 (ZEBRA／OFF／MARKER) ∗2

For details on the switches, refer to the DXC-537／537P instruction manual.

∗2. In the normal mode, either the zebra pattern or VF marker is displayed on the viewfinder screen.
By shorting SL1 or SL2, both indications can be displayed at the same time.

SW SETTING S5／AT-59	FACTORY-SET	SL1 SHORT	SL2 SHORT
ZEBRA ON	ZEBRA	ZEBRA	ZEBRA + MARKER
OFF	OFF	OFF	OFF
MARKER ON	MARKER	MARKER + ZEBRA	MARKER

MB-307 board

- S1 (MARKER SELECT)

When the ZEBRA／MARKER switch (S5／AT-59 board) on the camera side panel is set to 「MARKER ON」 position, a frame showing 90% of picture being shot (safety zone) and a white cross showing the center of screen (center marker) can be displayed on the viewfinder screen.
Combination of the above indications can be changed as shown below using the switch S1／MB-307 board.

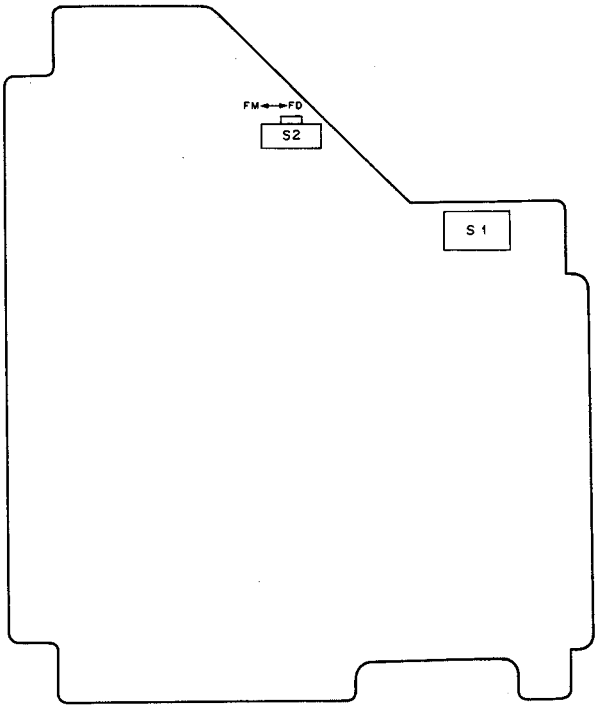
S1／ MB-307	NTSC ／PAL	C. MARK ON／OFF	S. ZONE OFF／ 80%／90%
0	P	OFF	OFF
1	P	ON	OFF
2	P	OFF	OFF
3	P	ON	OFF
4	P	OFF	90%
5*3	P	ON	90%
6	P	OFF	80%
7	P	ON	80%
8	N	OFF	OFF
9	N	ON	OFF
A	N	OFF	OFF
B	N	ON	OFF
C	N	OFF	90%
D*4	N	ON	90%
E	N	OFF	80%
F	N	ON	80%

* 3 : Factory setting (DXC-537P)
* 4 : Factory setting (DXC-537／537M／537PM)

- S2 (FD／FM)

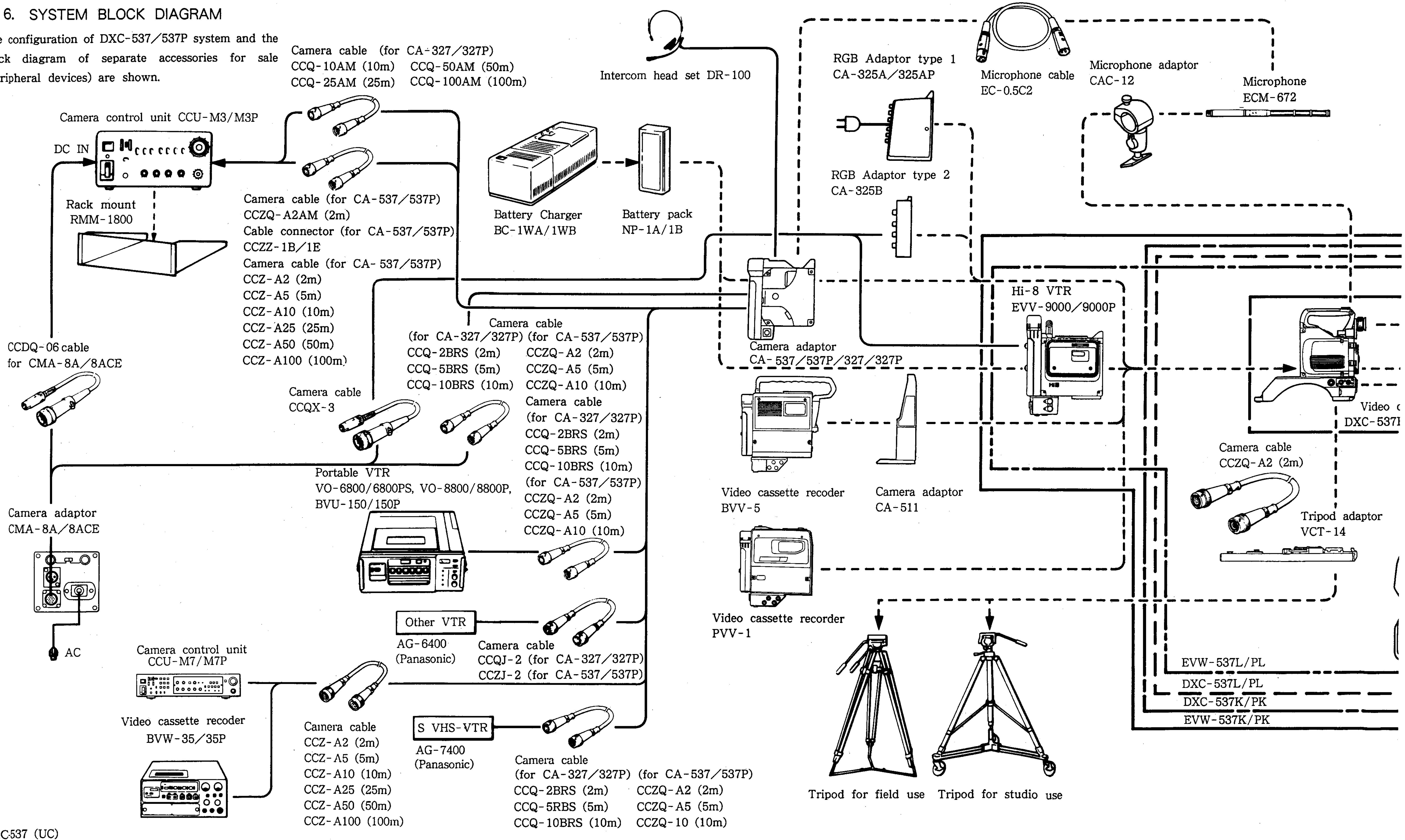
A CCD read system can be selected to a field system (FD) or frame system (FM).
The switch is factory-set to 「FD」 position.

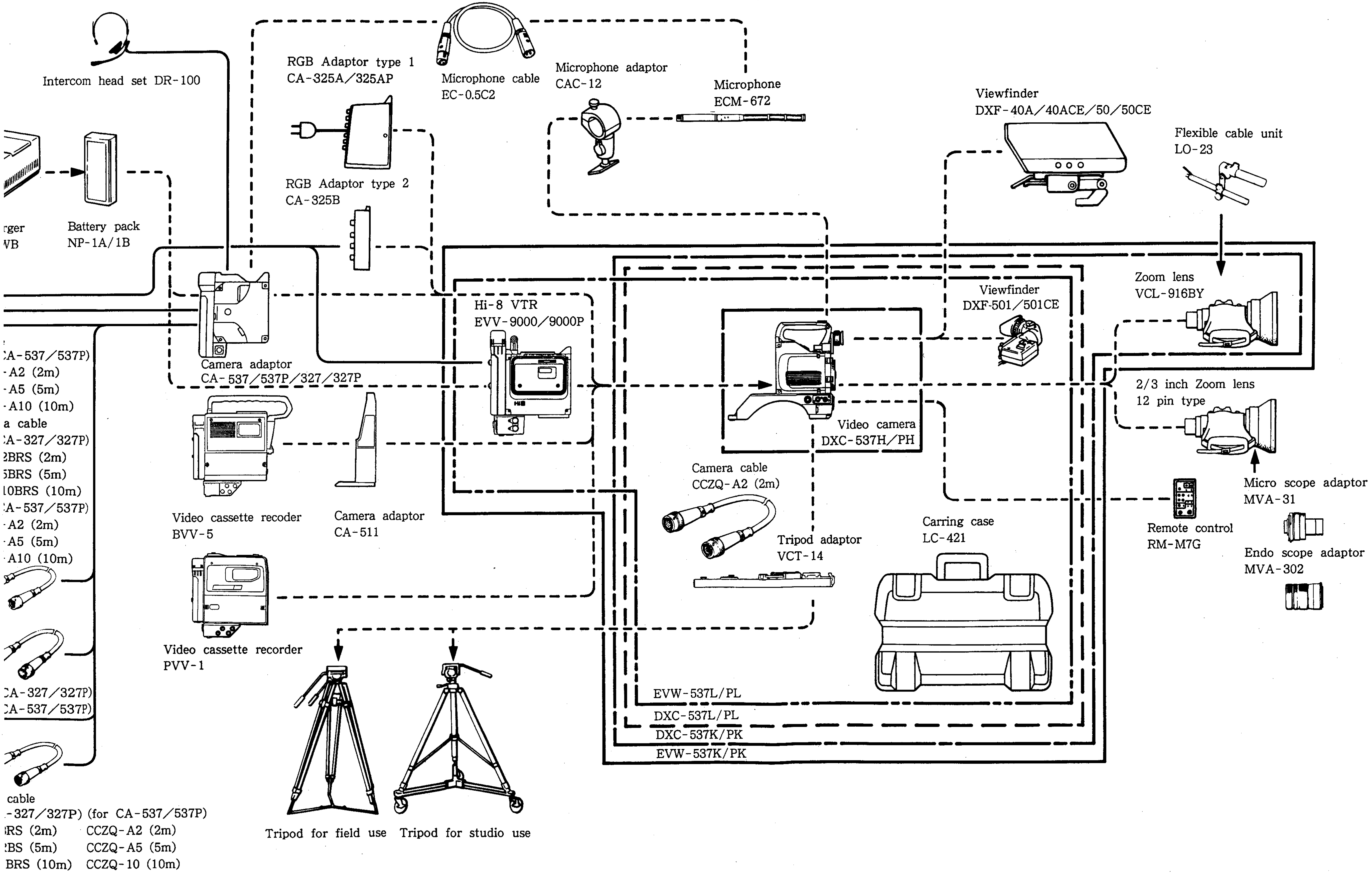
MB-307 BOARD
-SOLDERING SIDE-



2-6. SYSTEM BLOCK DIAGRAM

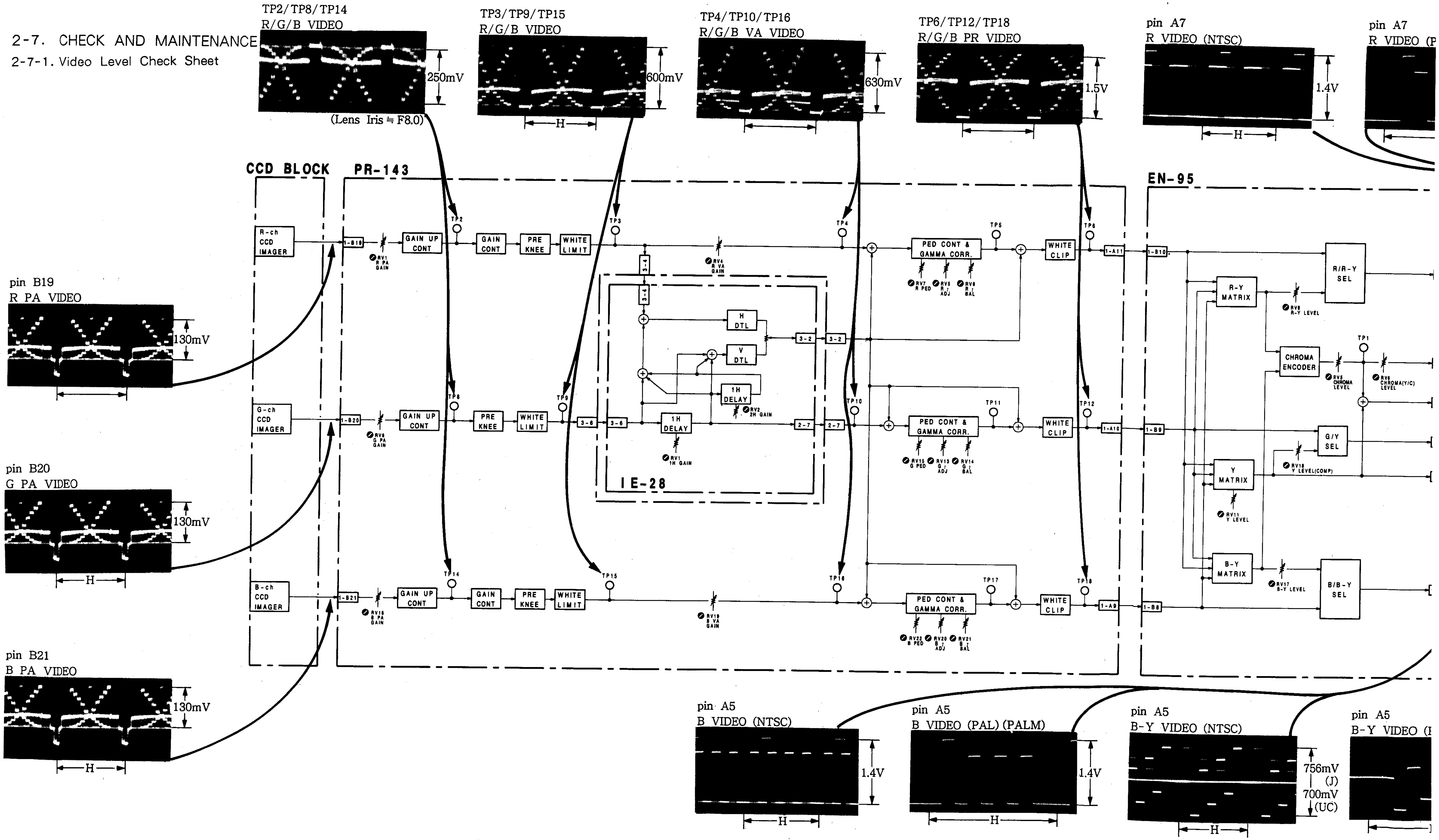
The configuration of DXC-537/537P system and the block diagram of separate accessories for sale (peripheral devices) are shown.

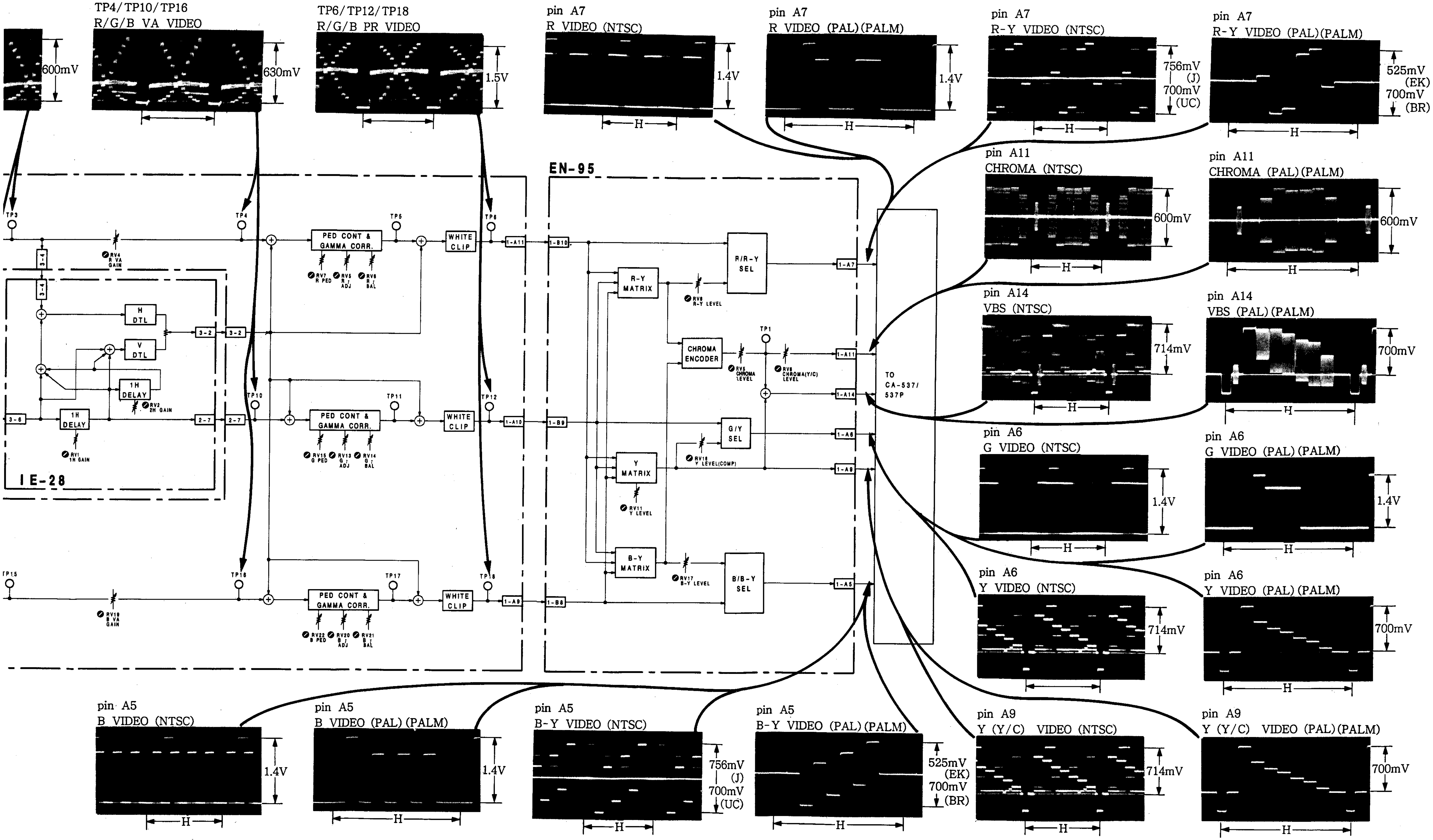

Camera cable (for CA-327/327P)
CCQ-10AM (10m) CCQ-50AM (50m)
CCQ-25AM (25m) CCQ-100AM (100m)
Intercom head set DR-100
RGB Adaptor type 1
CA-325A/325AP
Microphone cable
EC-0.5C2
Microphone adaptor
CAC-12
Microphone
ECM-672
Camera control unit CCU-M3/M3P
DC IN
Rack mount
RMM-1800
Camera cable (for CA-537/537P)
CCZQ-A2AM (2m)
Cable connector (for CA-537/537P)
CCZZ-1B/1E
Camera cable (for CA-537/537P)
CCZ-A2 (2m)
CCZ-A5 (5m)
CCZ-A10 (10m)
CCZ-A25 (25m)
CCZ-A50 (50m)
CCZ-A100 (100m)
Battery Charger
BC-1WA/1WB
Battery pack
NP-1A/1B
RGB Adaptor type 2
CA-325B
Camera adaptor
CA-537/537P/327/327P
Hi-8 VTR
EVV-9000/9000P
CCDQ-06 cable
for CMA-8A/8ACE
Camera cable
(for CA-327/327P) (for CA-537/537P)
CCQ-2BRS (2m) CCZQ-A2 (2m)
CCQ-5BRS (5m) CCZQ-A5 (5m)
CCQ-10BRS (10m) CCZQ-A10 (10m)
Camera cable
CCQX-3
Camera cable
(for CA-327/327P)
CCQ-2BRS (2m)
CCQ-5BRS (5m)
CCQ-10BRS (10m)
(for CA-537/537P)
CCZQ-A2 (2m)
CCZQ-A5 (5m)
CCZQ-A10 (10m)
Portable VTR
VO-6800/6800PS, VO-8800/8800P,
BVU-150/150P
Video cassette recoder
BVV-5
Camera adaptor
CA-511
Video c
DXC-537
Camera cable
CCZQ-A2 (2m)
Tripod adaptor
VCT-14
Camera adaptor
CMA-8A/8ACE
AC
Other VTR
AG-6400
(Panasonic)
Camera cable
CCQJ-2 (for CA-327/327P)
CCZJ-2 (for CA-537/537P)
Video cassette recorder
PVV-1
Camera control unit
CCU-M7/M7P
Video cassette recoder
BVW-35/35P
Camera cable
CCZ-A2 (2m)
CCZ-A5 (5m)
CCZ-A10 (10m)
CCZ-A25 (25m)
CCZ-A50 (50m)
CCZ-A100 (100m)
S VHS-VTR
AG-7400
(Panasonic)
Camera cable
(for CA-327/327P) (for CA-537/537P)
CCQ-2BRS (2m) CCZQ-A2 (2m)
CCQ-5RBS (5m) CCZQ-A5 (5m)
CCQ-10BRS (10m) CCZQ-10 (10m)
Tripod for field use
Tripod for studio use
EVW-537L/PL
DXC-537L/PL
DXC-537K/PK
EVW-537K/PK


Intercom head set DR-100
RGB Adaptor type 1
CA-325A/325AP
Microphone cable
EC-0.5C2
Microphone adaptor
CAC-12
Microphone
ECM-672
Viewfinder
DXF-40A/40ACE/50/50CE
Flexible cable unit
LO-23
RGB Adaptor type 2
CA-325B
rger
VB
Battery pack
NP-1A/1B
Zoom lens
VCL-916BY
Viewfinder
DXF-501/501CE
Hi-8 VTR
EVV-9000/9000P
A-537/537P)
-A2 (2m)
-A5 (5m)
-A10 (10m)
a cable
A-327/327P)
BRS (2m)
BRS (5m)
0BRS (10m)
A-537/537P)
-A2 (2m)
-A5 (5m)
-A10 (10m)
Camera adaptor
CA-537/537P/327/327P
2/3 inch Zoom lens
12 pin type
Video camera
DXC-537H/PH
Camera cable
CCZQ-A2 (2m)
Micro scope adaptor
MVA-31
Video cassette recoder
BVV-5
Camera adaptor
CA-511
Carring case
LC-421
Remote control
RM-M7G
Tripod adaptor
VCT-14
Endo scope adaptor
MVA-302
Video cassette recorder
PVV-1
A-327/327P)
A-537/537P)
EVW-537L/PL
DXC-537L/PL
DXC-537K/PK
EVW-537K/PK
cable
-327/327P) (for CA-537/537P)
RS (2m) CCZQ-A2 (2m)
BS (5m) CCZQ-A5 (5m)
BRS (10m) CCZQ-10 (10m)
Tripod for field use
Tripod for studio use

2-7. CHECK AND MAINTENANCE

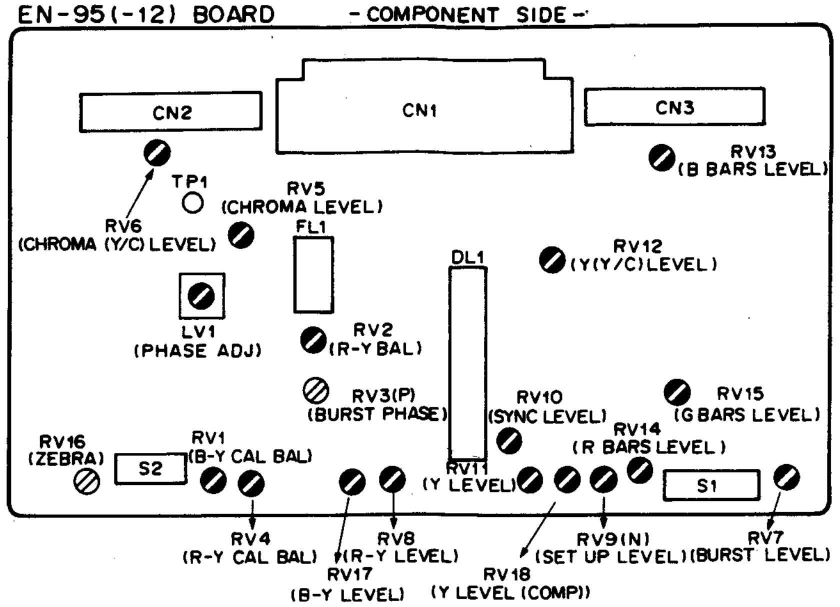
2-7-1. Video Level Check Sheet


TP2/TP8/TP14
R/G/B VIDEO
250mV
(Lens Iris ≒ F8.0)
TP3/TP9/TP15
R/G/B VIDEO
600mV
H
TP4/TP10/TP16
R/G/B VA VIDEO
630mV
TP6/TP12/TP18
R/G/B PR VIDEO
1.5V
pin A7
R VIDEO (NTSC)
1.4V
H
pin A7
R VIDEO (P
CCD BLOCK
PR-143
EN-95
R-ch CCD IMAGER
G-ch CCD IMAGER
B-ch CCD IMAGER
1-B19
1-B20
1-B21
RV1 R PA GAIN
RV8 G PA GAIN
RV16 B PA GAIN
GAIN UP CONT
TP2
TP8
TP14
GAIN CONT
PRE KNEE
WHITE LIMIT
TP3
TP9
TP15
3-4
3-6
H DTL
V DTL
1H DELAY
RV2 2H GAIN
RV1 1H GAIN
3-2
2-7
IE-28
RV4 R VA GAIN
RV19 B VA GAIN
TP4
TP10
TP16
PED CONT & GAMMA CORR.
RV7 R PED
RV5 R γ ADJ
RV6 R γ BAL
RV15 G PED
RV13 G γ ADJ
RV14 G γ BAL
RV22 B PED
RV20 B γ ADJ
RV21 B γ BAL
TP5
TP11
TP17
WHITE CLIP
TP6
TP12
TP18
1-A11
1-A10
1-A9
1-B10
1-B9
1-B8
R/R-Y SEL
R-Y MATRIX
RV9 R-Y LEVEL
CHROMA ENCODER
RV5 CHROMA LEVEL
TP1
RV6 CHROMA(Y/C) LEVEL
G/Y SEL
RV18 Y LEVEL(COMP)
Y MATRIX
RV11 Y LEVEL
B-Y MATRIX
RV17 B-Y LEVEL
B/B-Y SEL
pin B19
R PA VIDEO
130mV
pin B20
G PA VIDEO
130mV
H
pin B21
B PA VIDEO
130mV
H
pin A5
B VIDEO (NTSC)
1.4V
H
pin A5
B VIDEO (PAL) (PALM)
1.4V
H
pin A5
B-Y VIDEO (NTSC)
756mV (J)
700mV (UC)
H
pin A5
B-Y VIDEO (

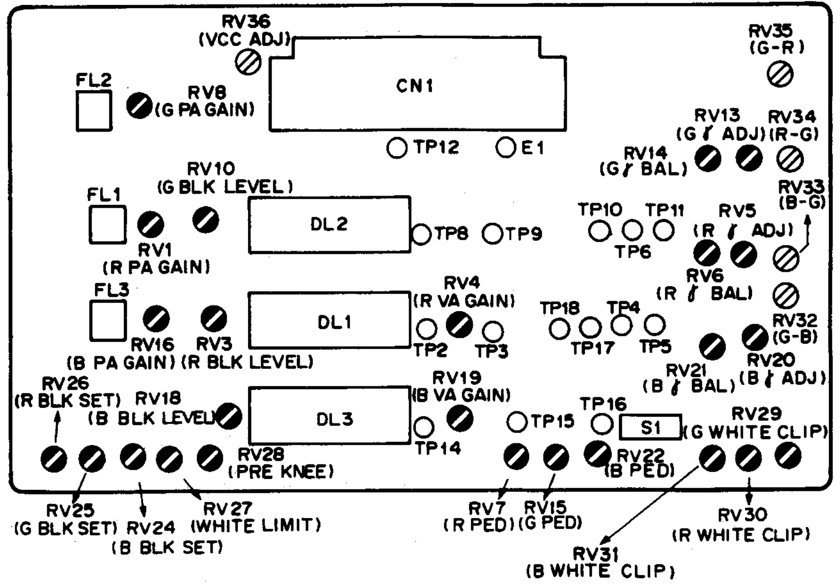

TP4/TP10/TP16
R/G/B VA VIDEO
600mV
630mV
TP6/TP12/TP18
R/G/B PR VIDEO
1.5V
pin A7
R VIDEO (NTSC)
1.4V
H
pin A7
R VIDEO (PAL) (PALM)
1.4V
H
pin A7
R-Y VIDEO (NTSC)
756mV
(J)
700mV
(UC)
H
pin A7
R-Y VIDEO (PAL) (PALM)
525mV
(EK)
700mV
(BR)
H
pin A11
CHROMA (NTSC)
600mV
H
pin A11
CHROMA (PAL) (PALM)
600mV
H
pin A14
VBS (NTSC)
714mV
H
pin A14
VBS (PAL) (PALM)
700mV
H
pin A6
G VIDEO (NTSC)
1.4V
H
pin A6
G VIDEO (PAL) (PALM)
1.4V
H
pin A6
Y VIDEO (NTSC)
714mV
pin A6
Y VIDEO (PAL) (PALM)
700mV
H
pin A9
Y (Y/C) VIDEO (NTSC)
714mV
H
pin A9
Y (Y/C) VIDEO (PAL) (PALM)
700mV
H
pin A5
B VIDEO (NTSC)
1.4V
H
pin A5
B VIDEO (PAL) (PALM)
1.4V
H
pin A5
B-Y VIDEO (NTSC)
756mV
(J)
700mV
(UC)
H
pin A5
B-Y VIDEO (PAL) (PALM)
525mV
(EK)
700mV
(BR)
H
EN-95
IE-28
TP3
TP4
TP5
TP6
TP10
TP11
TP12
TP15
TP16
TP17
TP18
TP1
RV4 R VA GAIN
RV19 B VA GAIN
3-4
3-6
3-2
2-7
H DTL
V DTL
1H DELAY
RV2 2H GAIN
RV1 1H GAIN
PED CONT & GAMMA CORR.
RV7 R PED
RV5 R γ ADJ
RV6 R γ BAL
RV15 G PED
RV13 G γ ADJ
RV14 G γ BAL
RV22 B PED
RV20 B γ ADJ
RV21 B γ BAL
WHITE CLIP
1-A11
1-A10
1-A9
1-B10
1-B9
1-B8
R-Y MATRIX
Y MATRIX
B-Y MATRIX
RV8 R-Y LEVEL
RV11 Y LEVEL
RV17 B-Y LEVEL
RV16 Y LEVEL(COMP)
R/R-Y SEL
G/Y SEL
B/B-Y SEL
CHROMA ENCODER
RV5 CHROMA LEVEL
RV6 CHROMA(Y/C) LEVEL
1-A7
1-A11
1-A14
1-A6
1-A9
1-A5
TO CA-537/ 537P

	Item	Setting	Measuring point	Adjustment point	Spec.	Remark
Step 1	BARS Level	GAIN Switch→0dB OUTPUT Switch→BARS	A6Pin/Extension Board(EN-95)	⊘ RV15/EN-95	1.4±0.02 Vp-p	
			Waveform Monitor	⊘ RV13/EN-95 ⊘ RV14/EN-95	The carrier leakage at gray portion is minimum	
Step 2	Carrier Balance		Vector Scope	⊘ RV1/EN-95 ⊘ RV4/EN-95	White beam spot→Center	Be sure to use a vector scope compatible with setup level "0".
Step 3	Burst Level			⊘ RV7/EN-95	Burst 75% Position	
Step 4	Color Vector			⊘ RV2, ⊘ RV5 ⊘ LV1/EN-95	Beam spots of each color →inside the ⊞ mark	
Step 5	SYNC Level		Waveform Monitor	⊘ RV10/EN-95	40±2 IRE	
Step 6	Set Up Level			⊘ RV9/EN-95	0±0.5 IRE	
Step 7	Y Level			⊘ RV11/EN-95	100±2 IRE	
Step 8	COMP Level		A6Pin/Extension Board(EN-95)	⊘ RV18/EN-95	Y Level : 714mV	
Step 9	COMP B-Y Level		A5Pin/Extension Board(EN-95)	⊘ RV17/EN-95	756±10 mVp-p	
Step 10	COMP R-Y Level		A7Pin/Extension Board(EN-95)	⊘ RV8/EN-95	756±10 mVp-p	
Step 11	Y/C Y Level		A9Pin/Extension Board(EN-95)	⊘ RV12/EN-95	Y Level : 714mV	VTR Switch/CA-537/537P→3
Step 12	Y/C Chroma Level		A11Pin/Extension Board(EN-95)	⊘ RV6/EN-95	Burst Level : 286mV	
Step 13	G Video Level	Object : Gray Scale Chart GAIN Switch→0dB WHITE BAL Switch →PRE SET	TP8/PR-143	⊘ RV8/PR-143	Video Level : 250±5 mV	Lens Iris F≒8.0
Step 14	B Video Level		TP14/PR-143	⊘ RV16/PR-143		
Step 15	R Video Level		TP2/PR-143	⊘ RV1/PR-143		
Step 16	DC Set	Lens Iris→Close	TP9/PR-143	⊘ RV10/PR-143	DCLevel : 0±10 mVdc	
			TP3/PR-143	⊘ RV3/PR-143		
			TP15/PR-143	⊘ RV18/PR-143		
Step 17	White Limit Level	GAIN Switch→0dB Object : Gray Scale Chart	TP9/PR-143	⊘ RV27/PR-143	White Level : 1.2V	Lens Iris F≒8.0
Step 18	PRE Knee		TP9/PR-143	⊘ RV28/PR-143	White Level : 1.1V	
Step 19	Black Set & Pedestal	Lens Iris→Close GAIN Switch→0dB	TP12/PR-143	⊘ RV25/PR-143 ⊘ RV15/PR-143		
		Lens Iris→Close GAIN Switch→18dB	Vector Scope	⊘ RV24/PR-143 ⊘ RV26/PR-143		Be sure to use a vector scope compatible with setup level "0".
		Lens Iris→Close GAIN Switch→0dB		⊘ RV7/PR-143 ⊘ RV22/PR-143		
Step 20	1H Gain Level	Records the right half of the white window chart.	CH1: TP9/PR-143 CH2: TP9/IE-28	⊘ CV2/IE-28	The phase of CH1 is aligned to CH2.	Observe the trailing edge of the white level.
Step 21	R/B Pre Set White	GAIN Switch→0dB Object : Gray Scale Chart Lens Iris F≒8.0	CH1: TP10/PR-143 CH2: TP4/PR-143	⊘ RV4/PR-143	The waveform becomes flat.	Make the gain of CH1 and CH2 equal. Put the CH1 into the GAIN ADD mode and the CH2 into the INVERT mode.
			CH1: TP10/PR-143 CH2: TP16/PR-143	⊘ RV19/PR-143	The waveform becomes flat.	
Step 22	G Gamma Balance		TP11/PR-143	⊘ RV14/PR-143	The white level of the video signal does not change when ⊘RV13/PR-143 is turned either fully counterclockwise or fully clockwise.	
Step 23	G Gamma Set		TP11/PR-143	⊘ RV13/PR-143	Crosspoint : 795mV	
Step 24	R Gamma Balance		TP5/PR-143	⊘ RV6/PR-143	The white level of the video signal does not change when ⊘RV5/PR-143 is turned either fully counterclockwise or fully clockwise.	
Step 25	B Gamma Balance		TP17/PR-143	⊘ RV21/PR-143	The white level of the video signal does not change when ⊘RV20/PR-143 is turned either fully counterclockwise or fully clockwise.	
Step 26	R/B Gamma Set		Vector Scope	⊘ RV5/PR-143 ⊘ RV20/PR-143	White beam spot→Center	Be sure to use a vector scope compatible with setup level "0".
Step 27	R/B White Clip	Object : Gray Scale Chart Lens Iris→Open	Waveform Monitor	⊘ RV30/PR-143 ⊘ RV31/PR-143	Carrier of white portion is minimized	
Step 28	G White Clip			⊘ RV29/PR-143	Clip : 110 IRE	

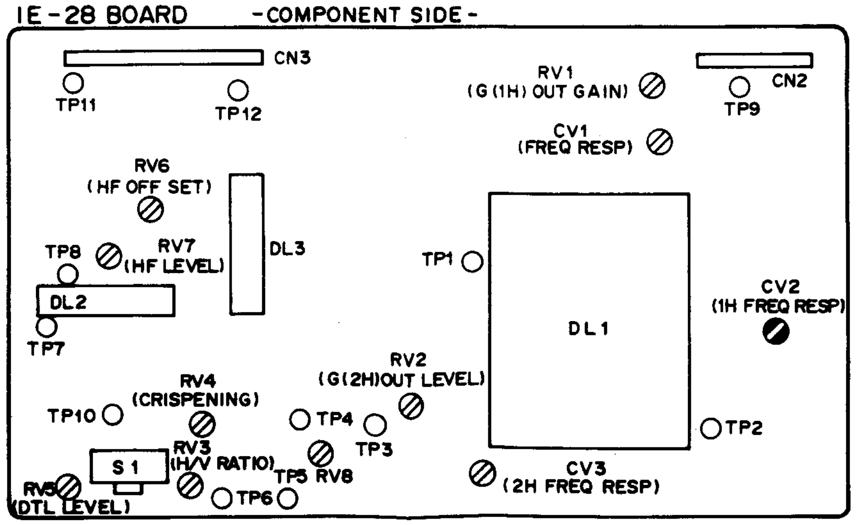
EN-95(-12) BOARD -COMPONENT SIDE-


CN2
CN1
CN3
RV13 (B BARS LEVEL)
TP1
RV5 (CHROMA LEVEL)
RV6 (CHROMA (Y/C) LEVEL)
FL1
DL1
RV12 (Y(Y/C) LEVEL)
LV1 (PHASE ADJ)
RV2 (R-Y BAL)
RV3(P) (BURST PHASE)
RV10 (SYNC LEVEL)
RV15 (G BARS LEVEL)
RV14 (R BARS LEVEL)
RV16 (ZEBRA)
S2
RV1 (B-Y CAL BAL)
RV11 (Y LEVEL)
S1
RV4 (R-Y CAL BAL)
RV8 (R-Y LEVEL)
RV17 (B-Y LEVEL)
RV18 (Y LEVEL (COMP))
RV9(N) (SET UP LEVEL)
RV7 (BURST LEVEL)

PR-143(-12) BOARD -COMPONENT SIDE-


RV36 (VCC ADJ)
CN1
RV35 (G-R)
FL2
RV8 (G PA GAIN)
TP12
E1
RV13 (G γ ADJ)
RV34 (R-G)
RV14 (G γ BAL)
FL1
RV10 (G BLK LEVEL)
DL2
TP8
TP9
TP10
TP11
TP6
RV5 (R γ ADJ)
RV33 (B-G)
RV1 (R PA GAIN)
FL3
RV4 (R VA GAIN)
DL1
TP18
TP4
TP2
TP3
TP17
TP5
RV6 (R γ BAL)
RV32 (G-B)
RV16 (B PA GAIN)
RV3 (R BLK LEVEL)
RV21 (B γ BAL)
RV20 (B γ ADJ)
RV26 (R BLK SET)
RV18 (B BLK LEVEL)
RV19 (B VA GAIN)
DL3
TP14
TP15
TP16
S1
RV29 (G WHITE CLIP)
RV28 (PRE KNEE)
RV22 (B PED)
RV25 (G BLK SET)
RV24 (B BLK SET)
RV27 (WHITE LIMIT)
RV7 (R PED)
RV15 (G PED)
RV30 (R WHITE CLIP)
RV31 (B WHITE CLIP)

IE-28 BOARD -COMPONENT SIDE-

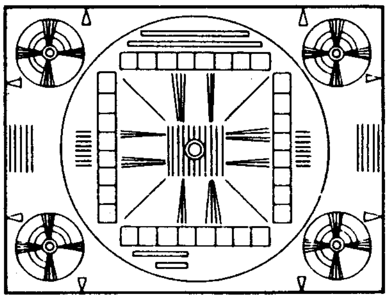

CN3
TP11
TP12
RV1 (G (1H) OUT GAIN)
CN2
TP9
CV1 (FREQ RESP)
RV6 (HF OFF SET)
TP8
RV7 (HF LEVEL)
DL3
TP1
DL2
TP7
DL1
CV2 (1H FREQ RESP)
RV2 (G(2H)OUT LEVEL)
RV4 (CRISPENING)
TP10
TP4
TP3
TP2
S1
RV3 (H/V RATIO)
TP5
RV8
CV3 (2H FREQ RESP)
RV5 (DTL LEVEL)
TP6

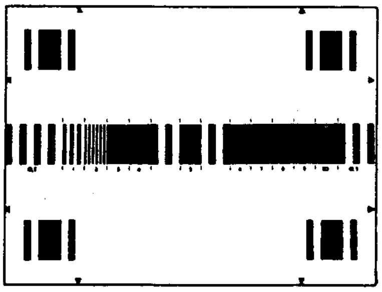
SECTION 3
ALIGNMENT

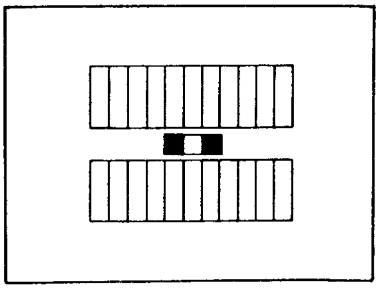
3-1. PREPARATION

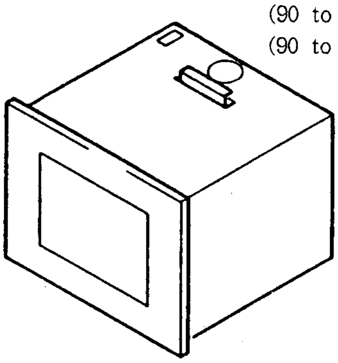
3-1-1. Equipment Required

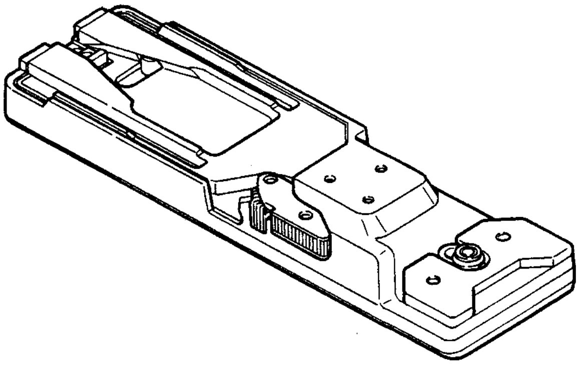
- Oscilloscope (more than 100 MHz)
- Waveform monitor
- Vectorscope
- Black and white monitor
  (Sony PVM-91/122 or equivalent)
- Color Monitor (Sony PVM-1320 or equivalent)
- AC Adaptor (Sony CMA-8/8A)
- Frequency counter
- Camera adaptor (Sony CA-537)

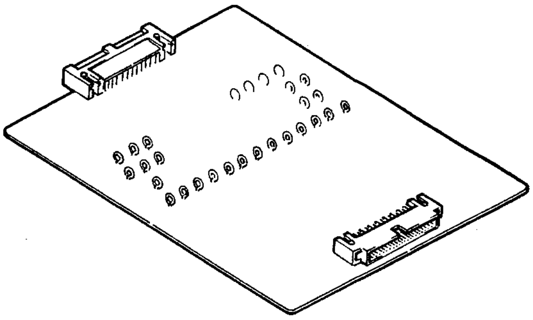
J-6026-100-A	Resolution chart
	

J-6026-110-A	Multiburst chart
	

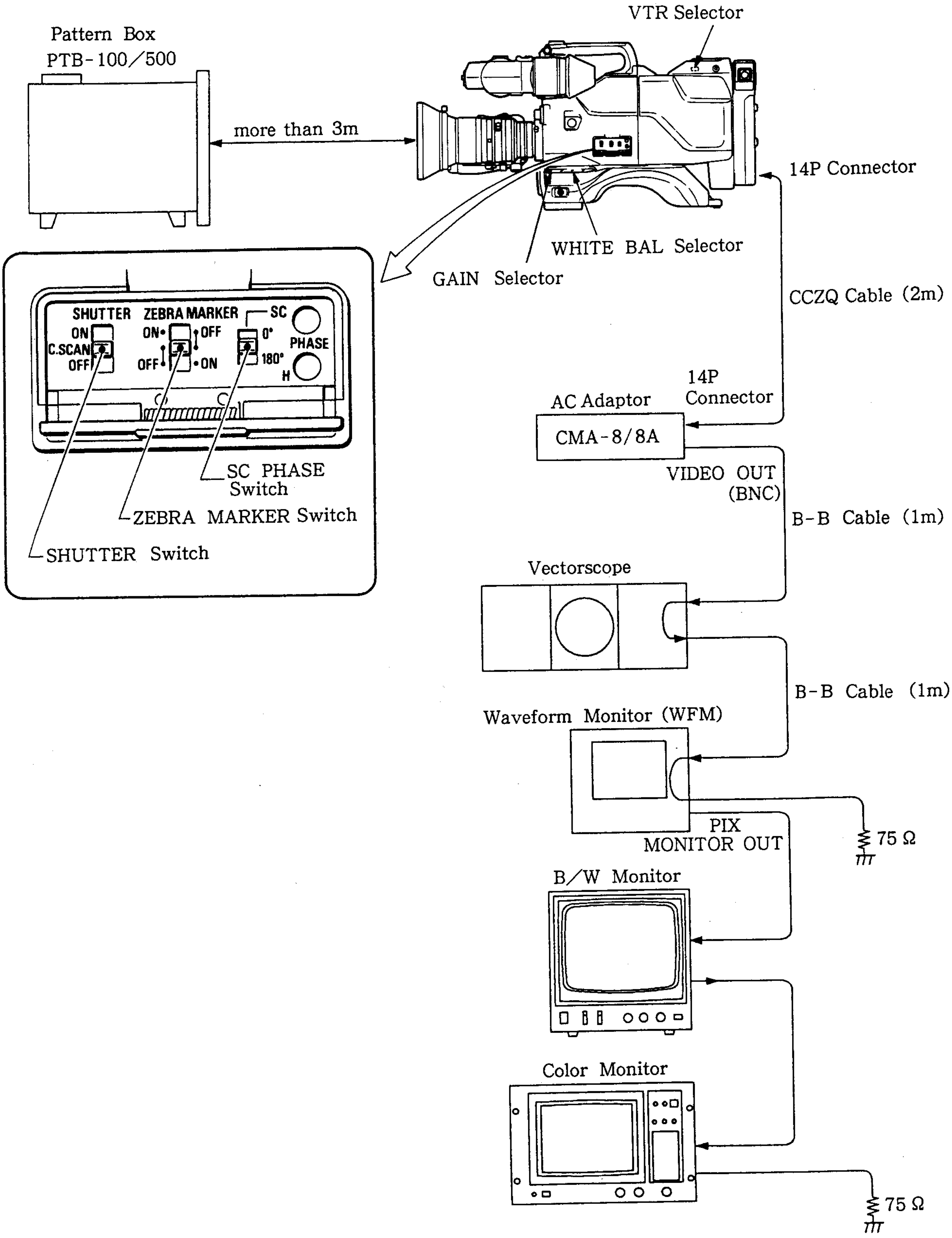
J-6026-130-A	Grayscale chart
	

J-6029-140-A	PTB-500 Pattern Box
• Light source for test chart (90 to 130 VAC : PTB-100) (90 to 240 VAC : PTB-500)  The PTB – 100 (Pattern Box) IS also able to use.	

	VCT-14 Tripod Adaptor
	

J-6309-200-A	Extension board EX – 327
• For adjustment of SG-171, PR-143, IE-28 and EN-95 boards 	

3-1-2. Connections and Initial Setting


Pattern Box
PTB-100/500
more than 3m
VTR Selector
14P Connector
WHITE BAL Selector
GAIN Selector
SHUTTER
ON
C.SCAN
OFF
ZEBRA MARKER
ON
OFF
OFF
ON
SC
0°
180°
PHASE
H
SC PHASE Switch
ZEBRA MARKER Switch
SHUTTER Switch
CCZQ Cable (2m)
14P Connector
AC Adaptor
CMA-8/8A
VIDEO OUT (BNC)
B-B Cable (1m)
Vectorscope
B-B Cable (1m)
Waveform Monitor (WFM)
75 Ω
PIX MONITOR OUT
B/W Monitor
Color Monitor
75 Ω

3-1-3. Initial Setting

Set the camera switches and controls as follows.

GAIN switch : 0 dB
OUTPUT switch : CAM
WHITE BAL switch : PRESET
FILTER knob : 1

VTR SELECT switch (CA-537) : 1
IRIS (Lens) : Manual
ZOOM (Lens) : Manual

S1 (MASKING) / PR-143 board : OFF
S1 (DTL) / IE-28 board : OFF
S1 (V BLKG) / EN-95 board : 20H
S1 (SHUTTER) / AT-59 board : OFF
S2 (ADJ/OPE) / AT-59 board : ADJ
S5 (ZEBRA/MARKER) / AT-59 board : OFF

Note : During the adjustment, do not touch the following switch.
- S2 (ADJ/OPE) / AT-59 board

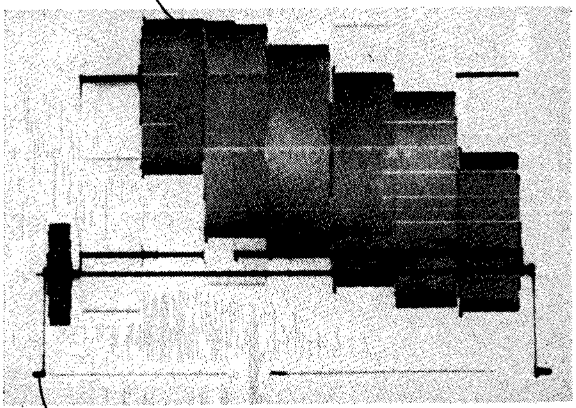
3-2. BEFORE ADJUSTMENT

Note : 1. Before adjustment, connect the equipments referring to Item 3-1-2. Connections.
2. Before adjustment, set the POWER switch to ON and allow for 10 minute warm-up time.

3-2-1. Color Bar Signal

Equipment : Vectorscope, Waveform monitor
Preparation : Set the OUTPUT switch on the side of the camera to BARS.
Specifications :

Y level 100 IRE

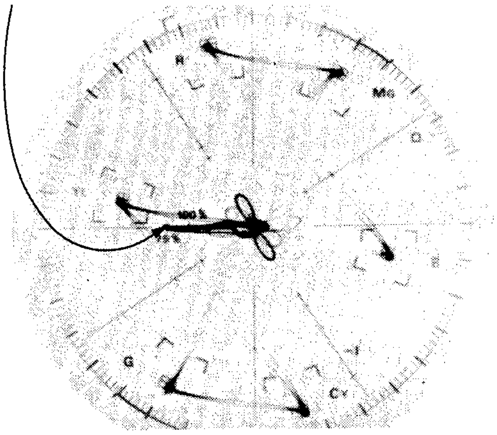


SYNC level
− 40 IRE

Chroma level

- Confirm that the beam spots of each color (R, YL, G, CY, B, and MG) are inside the "⊞" mark.

Burst Spot 75 %



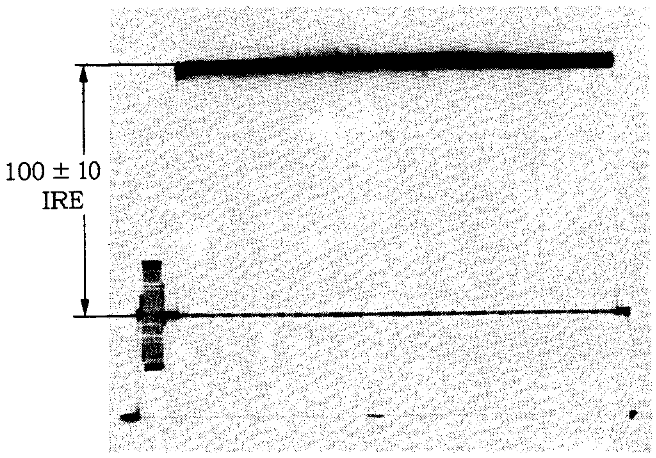
Note : Partial difference between scale and signal level is caused by photographic error.
: If the specifications are not met, carry out Item 3-4. ENCODER SYSTEM (EN-95 board) adjustment.

3-2-2. Sensitivity Measurement

Object : White pattern
Light : 3200K、2000 lux
(If the pattern box "PTB-100" is used, set the AUTO mode)
Preparation :

- Adjust the zoom control at "TELE" so that the white pattern frame matches the underscanned picture frame on the screen.
- Manually set the iris control to F8.
- Set the OUTPUT switch on the side of the camera to CAM.
- Set the WHITE BAL switch on the side of the camera to PRESET.

Equipment : Waveform monitor
Specifications : 100 ± 10 IRE



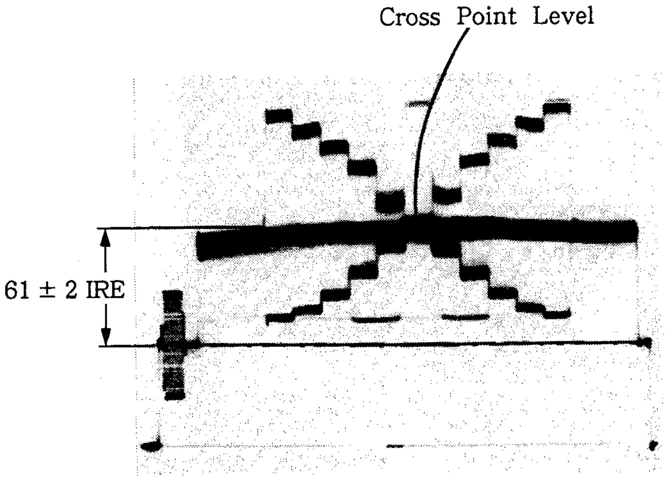
Note : If the specification is not met, perform all adjustments in Item 3-5. VIDEO PROCESS SYSTEM.

3-2-3. Gamma and Gradation Measurement

Object : Grayscale chart
(Sony parts number J-6026-130-A)
Light : Pattern box PTB-100/500
Equipment : Waveform monitor
Preparation :

- Set the OUTPUT switch on the side of the camera to CAM.
- Set the WHITE BAL switch on the side of the camera to PRESET.
- Adjust the zoom control so that the Grayscale chart frame matches the underscanned picture frame on the screen.
- Adjust the iris control so that the white level of Grayscale chart is 100 IRE on the waveform monitor.

Specifications : Confirm that the cross point level of the Grayscale chart is 61 ± 2 IRE.



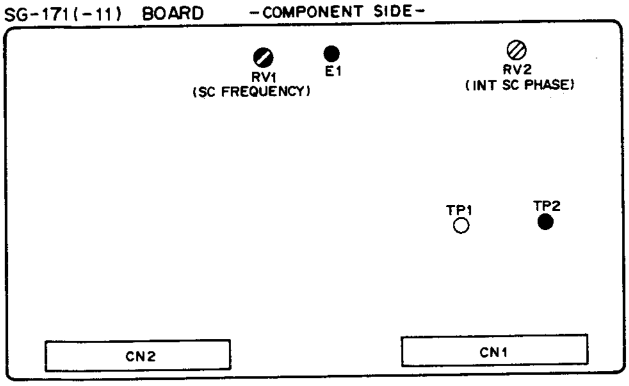
Note : Partial difference between signal level and scale is caused by a photographic error.
: If the specification is not met, carry out Item 3-5-15. through Item 3-5-19..

3-3. SYNC SIGNAL SYSTEM (SG-171 BOARD)

3-3-1. Sub Carrier Frequency Adjustment

Equipment : Frequency counter
To be extended : EN-95 board
Test point : TP2 (GND : E1) / SG-171 board
Adjustment point : ⊘RV1 / SG-171 board
Specification : 3,579,545 ± 10Hz

SG-171(-11) BOARD -COMPONENT SIDE-


RV1
(SC FREQUENCY)
E1
RV2
(INT SC PHASE)
TP1
TP2
CN2
CN1

3-3-2. INT SC Phase Adjustment

Note : Stated below is a procedure with the SC-H phase measuring equipment (Tektronicx 1750). If any other equipment is used, perform adjustment at the following adjustment point by reading the instruction manual attached .

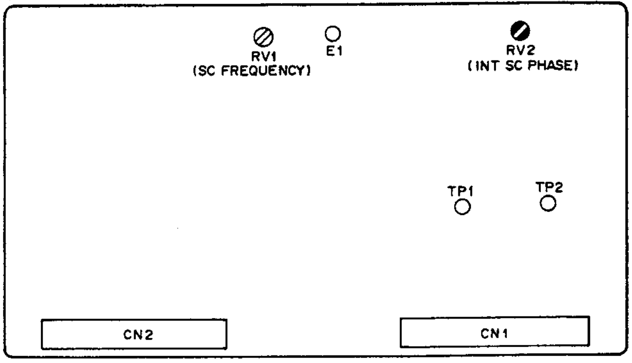
Equipment : SC-H phase measuring equipment
To be extended : SG-171 board
Preparation :
- Disconnect the vectorscope and connect the Tektronix 1750 instead.
- Put the Tektronix 1750 to SC-H mode.

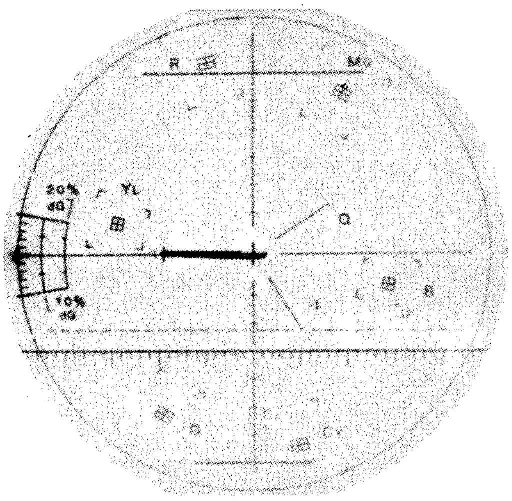
Test point : VIDEO OUT connector (side panel)
Adjustment point : ⊘RV2 (INT SC PHASE) / SG-171 board
Specification : See below.

Adjustment Procedures

1. Adjust the phase relationship between SC (burst) and H beam spot correctly with ⊘RV2 (INT SC PHASE).

SG-171(-11) BOARD -COMPONENT SIDE-





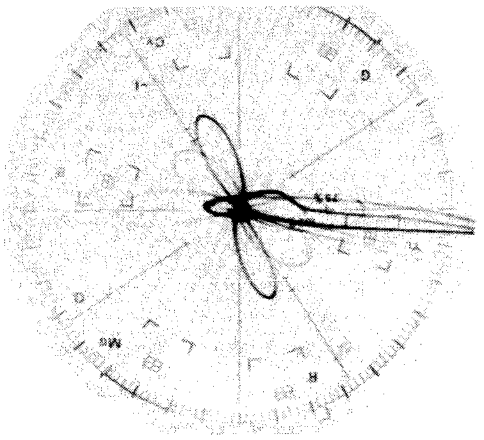
Note : After the adjustment, disconnect Tektronix 1750 and connect the vectorscope.

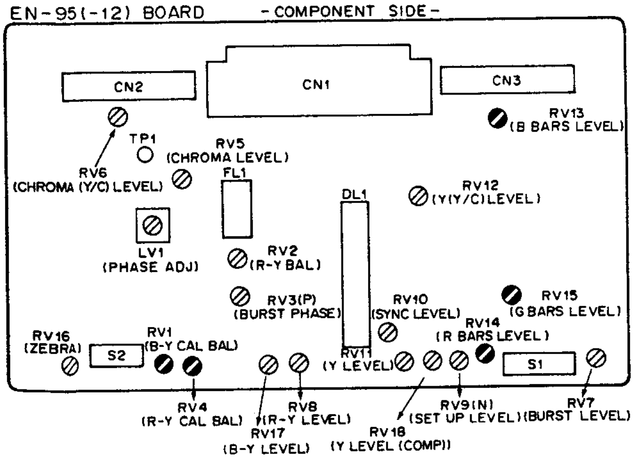
3-4. ENCODER SYSTEM(EN-95 BOARD)

3-4-1. Carrier Balance Adjustment

Equipment : Vectorscope (MAX GAIN)
To be extended : EN-95 board
Preparation :
- Set the OUTPUT switch on the side of the camera to BARS.

Adjustment : Adjust ⊘RV1 and ⊘RV4/EN-95 board so that the white beam spot is in the center of the vectorscope.




CN2
CN1
CN3
RV13
(B BARS LEVEL)
TP1
RV5
(CHROMA LEVEL)
RV6
(CHROMA (Y/C) LEVEL)
FL1
DL1
RV12
(Y(Y/C)LEVEL)
LV1
(PHASE ADJ)
RV2
(R-Y BAL)
RV3(P)
(BURST PHASE)
RV10
(SYNC LEVEL)
RV15
(G BARS LEVEL)
RV14
(R BARS LEVEL)
RV16
(ZEBRA)
S2
RV1
(B-Y CAL BAL)
RV11
(Y LEVEL)
S1
RV4
(R-Y CAL BAL)
RV8
(R-Y LEVEL)
RV17
(B-Y LEVEL)
RV9(N)
(SET UP LEVEL)
RV18
(Y LEVEL (COMP))
RV7
(BURST LEVEL)

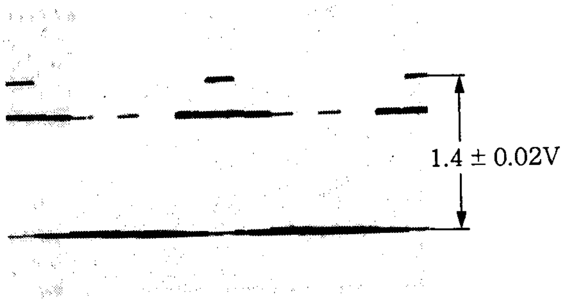
EN-95(-12) BOARD -COMPONENT SIDE-

3-4-2. BARS Level Adjustment

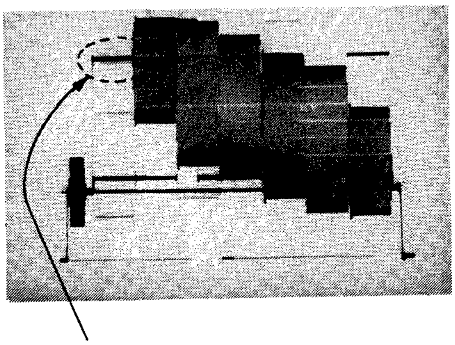
Equipment : Oscilloscope, Waveform monitor
To be extended : EN-95 board
Preparation :
- OUTPUT switch (camera side panel) → BARS
- S1/IF-313 board (CA-537) → RGB (upper side)

Trigger : HD (pin B18/extension board)
Adjustment :

1. Adjust ⊘RV15/EN-95 board so that the video level at pin A6(GND : pin A8)/extension board is 1.4 ± 0.02V.



2. Adjust ⊘RV13, ⊘RV14/EN-95 board so that the carrier leakage at gray portion (camera side panel) is minimum.


Carrier Leak

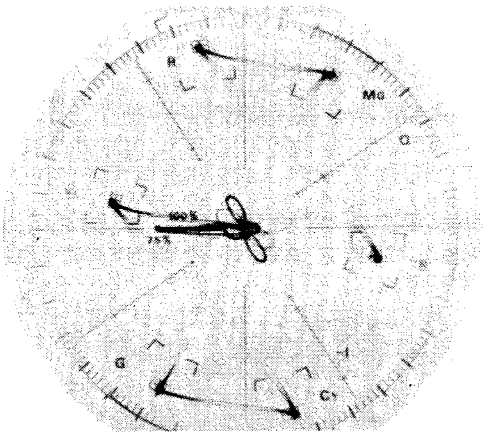
3-4-3. Color Vector Adjustment

Equipment : Vectorscope
To be extended : EN-95 board
Preparation :

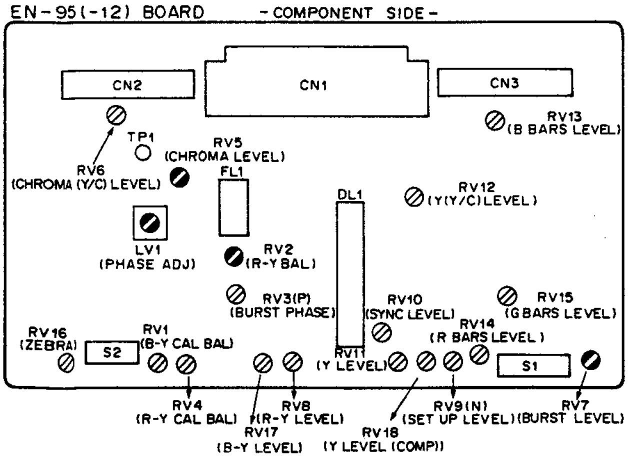
- Set the GAIN switch on the vectorscope to 75%.
- Adjust "PHASE" control on the Vectorscope so that the burst spot is set to the 75% axis. Set the OUTPUT switch on the side of the camera to BARS.

Adjustment :

1. Adjust ⊘RV2, ⊘RV5 and ⊘LV1/EN-95 board so that the beam spots of each color are inside the "⊞" mark.
2. Adjust ⊘RV7/EN-95 board so that the burst level is set to the 75% position.


R
Mg
100%
75%
G
Cy

EN-95(-12) BOARD -COMPONENT SIDE-

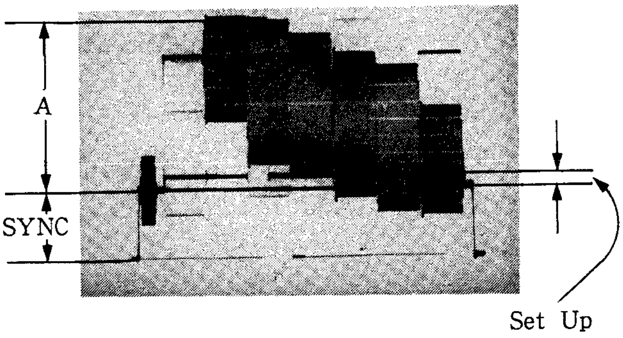

CN2
CN1
CN3
RV13
(B BARS LEVEL)
TP1
RV5
(CHROMA LEVEL)
RV6
(CHROMA (Y/C) LEVEL)
FL1
DL1
RV12
(Y(Y/C)LEVEL)
LV1
(PHASE ADJ)
RV2
(R-Y BAL)
RV3(P)
(BURST PHASE)
RV10
(SYNC LEVEL)
RV15
(G BARS LEVEL)
RV14
(R BARS LEVEL)
RV16
(ZEBRA)
S2
RV1
(B-Y CAL BAL)
RV11
(Y LEVEL)
S1
RV4
(R-Y CAL BAL)
RV8
(R-Y LEVEL)
RV17
(B-Y LEVEL)
RV18
(Y LEVEL (COMP))
RV9(N)
(SET UP LEVEL)
RV7
(BURST LEVEL)

3-4-4. Y, SYNC and SET UP Level Adjustment

Equipment : Waveform monitor
To be extended : EN-95 board
Preparation :
- Set the OUTPUT switch on the side of the camera to BARS.

Adjustment :

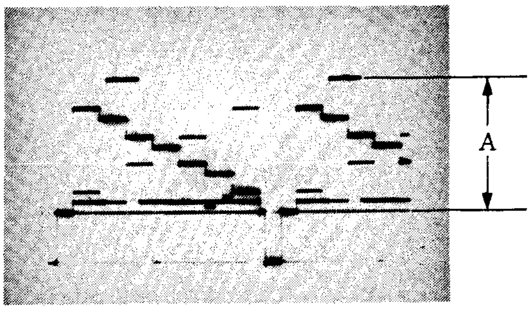
1. Adjust ⊘RV9/EN-95 board so that the SET UP level of the color bars signal is 7.5 ± 0.5 IRE.
2. Adjust ⊘RV11/EN-95 board so that the Y level of the color bars signal is 100 ± 2 IRE.
3. Repeat procedures 1 to 2 several times until the specifications are met.
4. Adjust ⊘RV10/EN-95 board so that the SYNC level of the color bars signal is 40 ± 2 IRE.

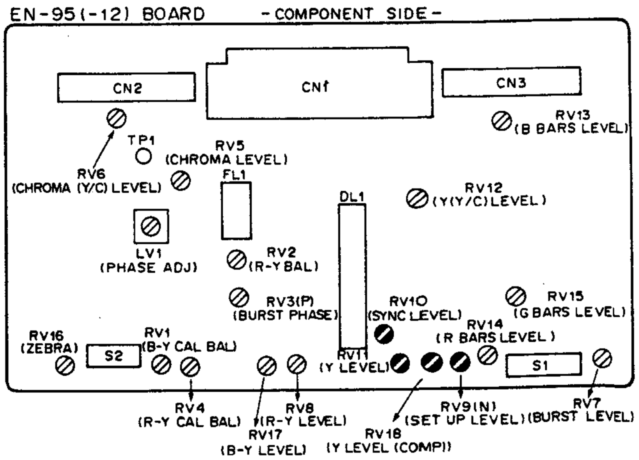


3-4-5. COMPONENT Y Level Adjustment

Equipment : Oscilloscope
Preparation :
- OUTPUT switch (camera side panel) → BARS
- S1/IF-313 board (CA-537) → center position

To be extended : EN-95 board
Adjustment point : ⊘RV18/EN-95 board
Test point : pin A6 (GND : pin A8) / EN-95 board
Trigger : HD (pin B18/extension board)
Specification : A = 714 ± 10mV

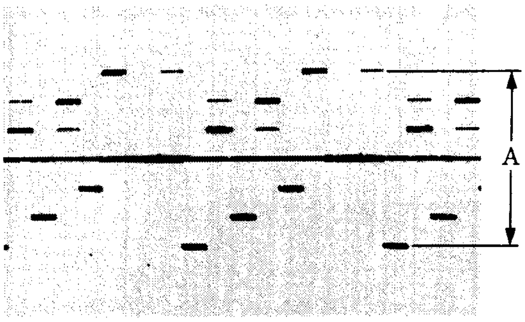



EN-95(-12) BOARD
- COMPONENT SIDE -
CN2
CN1
CN3
RV13 (B BARS LEVEL)
TP1
RV5 (CHROMA LEVEL)
RV6 (CHROMA (Y/C) LEVEL)
FL1
DL1
RV12 (Y(Y/C) LEVEL)
LV1 (PHASE ADJ)
RV2 (R-Y BAL)
RV3(P) (BURST PHASE)
RV10 (SYNC LEVEL)
RV15 (G BARS LEVEL)
RV14 (R BARS LEVEL)
RV16 (ZEBRA)
S2
RV1 (B-Y CAL BAL)
RV11 (Y LEVEL)
S1
RV4 (R-Y CAL BAL)
RV8 (R-Y LEVEL)
RV17 (B-Y LEVEL)
RV18 (Y LEVEL (COMP))
RV9(N) (SET UP LEVEL)
RV7 (BURST LEVEL)

3-4-6. B-Y OUT Level Adjustment

Equipment : Oscilloscope
To be extended : EN-95 board
Preparation :
- OUTPUT switch (camera side panel) →BARS

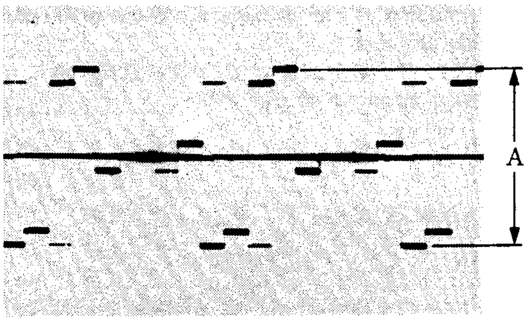
Test point : pin A5 (GND : pin A8) /extension board
Trigger : HD (pin B18/extension board)
Adjustment point : ⊘RV17/EN-95 board
Specifications : A = 700 ± 10mV



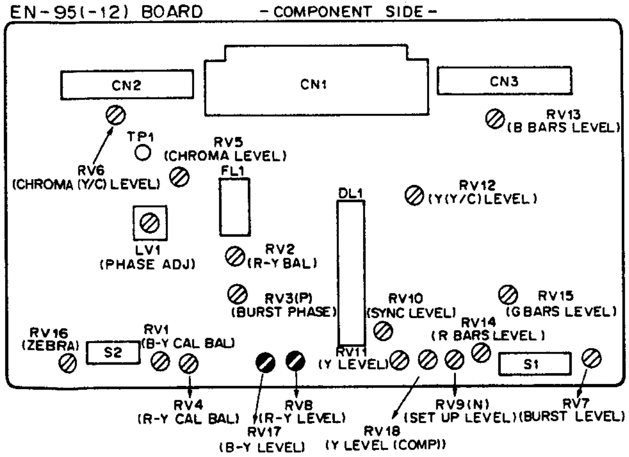
3-4-7. R-Y OUT Level Adjustment

Equipment : Oscilloscope
To be extended : EN-95 board
Preparation :
- OUTPUT switch (camera side panel) →BARS

Test point : pin A7 (GND : pin A8) /extension board
Trigger : HD (pin B18/extension board)
Adjustment point : ⊘RV8/EN-95 board
Specifications : A = 700 ± 10mV



EN-95(-12) BOARD -COMPONENT SIDE-


CN2
CN1
CN3
RV13
(B BARS LEVEL)
TP1
RV5
(CHROMA LEVEL)
RV6
(CHROMA (Y/C) LEVEL)
FL1
DL1
RV12
(Y (Y/C) LEVEL)
LV1
(PHASE ADJ)
RV2
(R-Y BAL)
RV3(P)
(BURST PHASE)
RV10
(SYNC LEVEL)
RV15
(G BARS LEVEL)
RV14
(R BARS LEVEL)
RV16
(ZEBRA)
S2
RV1
(B-Y CAL BAL)
RV11
(Y LEVEL)
S1
RV4
(R-Y CAL BAL)
RV8
(R-Y LEVEL)
RV17
(B-Y LEVEL)
RV18
(Y LEVEL (COMP))
RV9(N)
(SET UP LEVEL)
RV7
(BURST LEVEL)

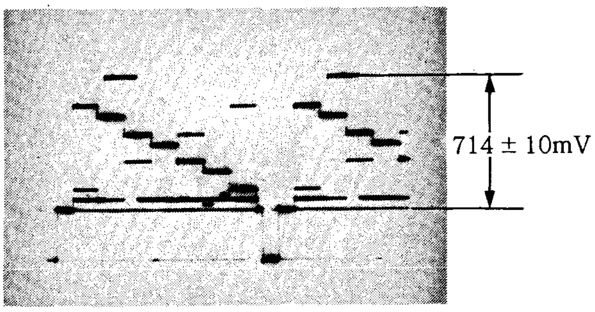
3-4-8. S-VHS VTR-Y Level Adjustment

Note : Before this adjustment, carry out Item 3-4-4. Color Vector Adjustment.

Equipment : Oscilloscope
To be extended : EN-95 board
Preparation :

- Set the OUTPUT switch on the side of the camera to BARS.

Test point : pin A9(GND: pin A10)/extension board
Adjustment :
Adjust ⊘RV12/EN-95 board so that the white level of Y signal is 714 ± 10mV.



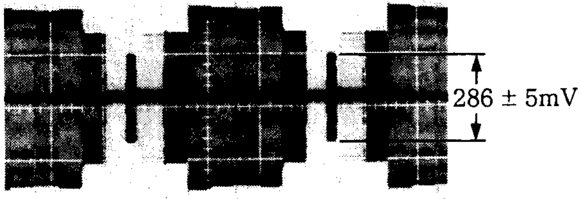
3-4-9. S-VHS VTR-Chroma Level Adjustment

Note : Before this adjustment, carry out Item 3-4-4. Color Vector Adjustment.

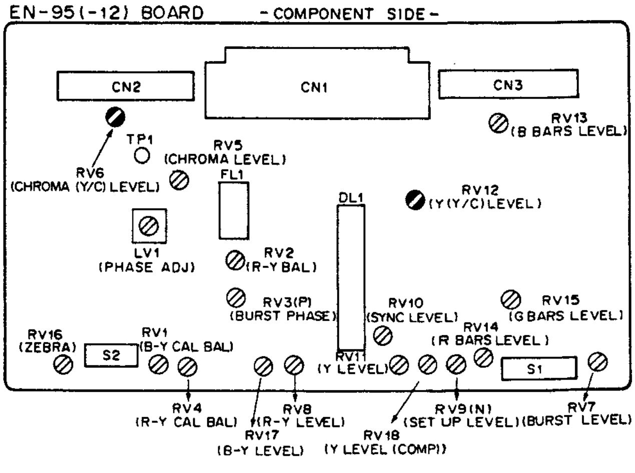
Equipment : Oscilloscope
To be extended : EN-95 board
Preparation :

- Set the OUTPUT switch on the side of the camera to BARS.

Test point : Pin A11(GND: pin A12)/extension board
Adjustment :
Adjust ⊘RV6/EN-95 board so that the burst level in the chroma signal is 286 ± 5mV.



EN-95(-12) BOARD -COMPONENT SIDE-


CN2
CN1
CN3
RV13 (B BARS LEVEL)
TP1
RV5 (CHROMA LEVEL)
RV6 (CHROMA (Y/C) LEVEL)
FL1
DL1
RV12 (Y (Y/C) LEVEL)
LV1 (PHASE ADJ)
RV2 (R-Y BAL)
RV3(P) (BURST PHASE)
RV10 (SYNC LEVEL)
RV15 (G BARS LEVEL)
RV14 (R BARS LEVEL)
RV16 (ZEBRA)
S2
RV1 (B-Y CAL BAL)
RV11 (Y LEVEL)
S1
RV4 (R-Y CAL BAL)
RV8 (R-Y LEVEL)
RV17 (B-Y LEVEL)
RV18 (Y LEVEL (COMP))
RV9(N) (SET UP LEVEL)
RV7 (BURST LEVEL)

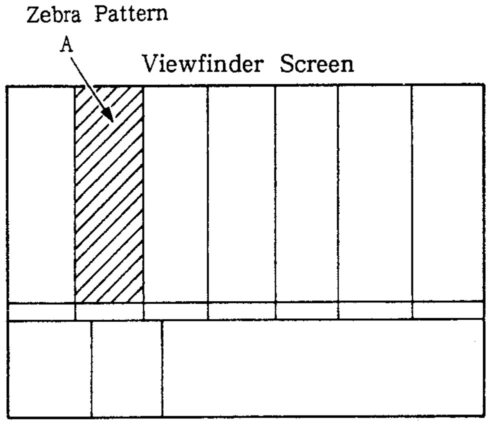
3-4-10. Zebra Adjustment

Equipment : Viewfinder
To be extended : EN-95 board
Preparation :

- Set the OUTPUT switch on the side of the camera to BARS.
- Set the S5 (ZEBRA ON/OFF) switch on the AT-59 board to ON.

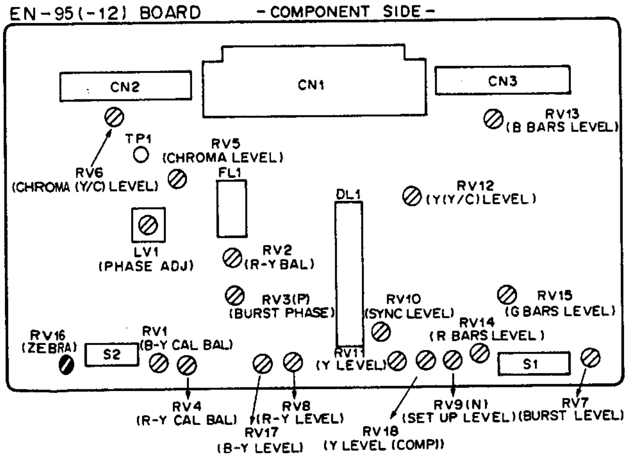
Adjustment :

Adjust ⊘ RV16/EN-95 board so that the zebra pattern appears on the portion A of the viewfinder screen.


Zebra Pattern
A
Viewfinder Screen

Note : After adjustment, set the S5/AT-59 board to OFF.

EN-95(-12) BOARD -COMPONENT SIDE-


CN2
CN1
CN3
RV13
(B BARS LEVEL)
TP1
RV5
(CHROMA LEVEL)
RV6
(CHROMA (Y/C) LEVEL)
FL1
DL1
RV12
(Y(Y/C) LEVEL)
LV1
(PHASE ADJ)
RV2
(R-Y BAL)
RV3(P)
(BURST PHASE)
RV10
(SYNC LEVEL)
RV15
(G BARS LEVEL)
RV14
(R BARS LEVEL)
RV16
(ZEBRA)
S2
RV1
(B-Y CAL BAL)
RV11
(Y LEVEL)
S1
RV4
(R-Y CAL BAL)
RV8
(R-Y LEVEL)
RV17
(B-Y LEVEL)
RV9(N)
(SET UP LEVEL)
RV18
(Y LEVEL (COMP))
RV7
(BURST LEVEL)

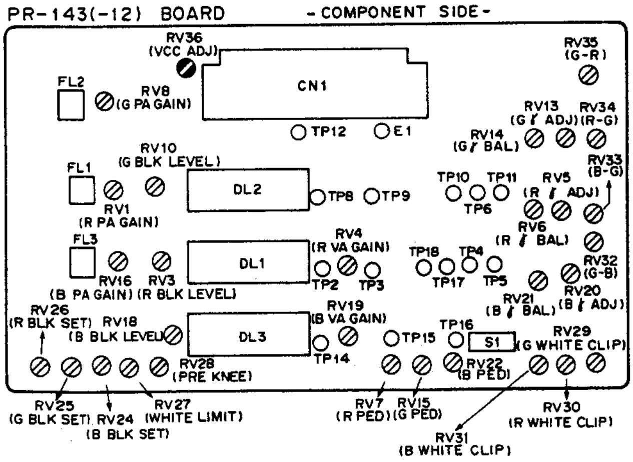
3-5. VIDEO PROCESS SYSTEM (PR-143 BOARD)

3-5-1. +8.5V Adjustment

Note : This adjustment influences operation of PR-143, IE-28 board. Therefore , when this adjustment is carried out, all of following adjustments in VIDEO PROCESS SYSTEM and DETAIL SIGNAL SYSTEM must be confirmed. Perform adjustment when measured voltage is more than ± 1 % with respect to the specified voltage.

Equipment : Digital voltmeter
To be extended : PR-143 board
Test point : Q34-collector [E-5] / PR-143 board
(GND : pin A1 / extension board)
Adjustment point : ⊘RV36 / PR-143 board
Specification : + 8.5 ± 0.1 Vdc

PR-143(-12) BOARD -COMPONENT SIDE-


RV36
(VCC ADJ)
CN1
FL2
RV8
(G PA GAIN)
TP12
E1
RV35
(G-R)
RV13
(G γ ADJ)
RV34
(R-G)
RV14
(G γ BAL)
RV10
(G BLK LEVEL)
FL1
DL2
RV1
(R PA GAIN)
TP8
TP9
TP10
TP11
TP6
RV5
(R γ ADJ)
RV33
(B-G)
RV6
(R γ BAL)
FL3
DL1
RV16
(B PA GAIN)
RV3
(R BLK LEVEL)
RV4
(R VA GAIN)
TP2
TP3
TP18
TP4
TP17
TP5
RV32
(G-B)
RV20
(B γ ADJ)
RV21
(B γ BAL)
RV26
(R BLK SET)
RV18
(B BLK LEVEL)
DL3
RV19
(B VA GAIN)
TP14
TP15
TP16
S1
RV29
(G WHITE CLIP)
RV28
(PRE KNEE)
RV22
(B PED)
RV25
(G BLK SET)
RV24
(B BLK SET)
RV27
(WHITE LIMIT)
RV7
(R PED)
RV15
(G PED)
RV31
(B WHITE CLIP)
RV30
(R WHITE CLIP)

3-5-2. G ch Video Level Adjustment

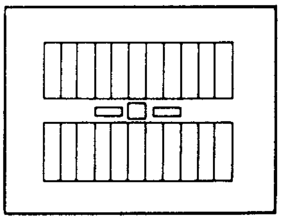
Note: After this adjustment, perform the item 3-5-3. and the item 3-5-4. adjustment.

Object : Grayscale chart
Equipment : Oscilloscope
To be extended : PR-143 board
Preparation :

- WHITE BAL switch (camera side panel) → PRESET
- OUTPUT switch (camera side panel) → CAM

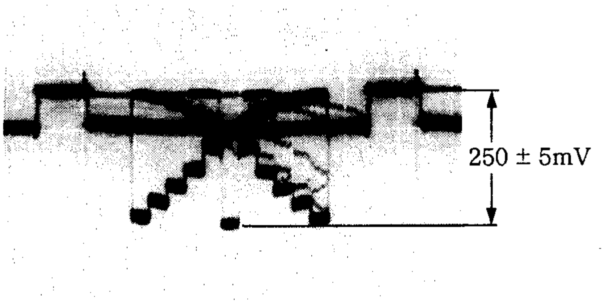
Trigger : pin A5/extension board
Adjustment :

1. Adjust the zoom control so that the chart frame matches the underscanned picture frame on the screen.



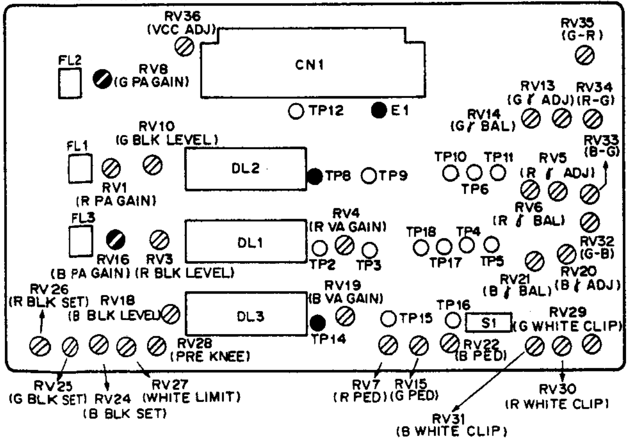
Monitor Screen

2. ⊘RV8/PR-143 board → fully clockwise ↻
3. Adjust the lens iris so that the video level at TP8/PR-143 board is 250 ± 5mV.



Note: Do not adjust the iris control until the item 3-5-3. and the item 3-5-4. are completed.

PR-143(-12) BOARD -COMPONENT SIDE-


RV36
(VCC ADJ)
CN1
RV35
(G-R)
FL2
RV8
(G PA GAIN)
RV13 (G γ ADJ)
RV34 (R-G)
TP12
E1
RV14
(G γ BAL)
RV10
(G BLK LEVEL)
FL1
RV33
(B-G)
DL2
TP8
TP9
TP10
TP11
TP6
RV5
(R γ ADJ)
RV1
(R PA GAIN)
FL3
RV4
(R VA GAIN)
RV6
(R γ BAL)
DL1
TP18
TP4
TP2
TP3
TP17
TP5
RV32
(G-B)
RV16
(B PA GAIN)
RV3
(R BLK LEVEL)
RV20
(B γ ADJ)
RV21
(B γ BAL)
RV26
(R BLK SET)
RV18
(B BLK LEVEL)
RV19
(B VA GAIN)
DL3
TP14
TP15
TP16
S1
RV29
(G WHITE CLIP)
RV28
(PRE KNEE)
RV22
(B PED)
RV25
(G BLK SET)
RV24
(B BLK SET)
RV27
(WHITE LIMIT)
RV7
(R PED)
RV15
(G PED)
RV30
(R WHITE CLIP)
RV31
(B WHITE CLIP)

3-5-3. B ch Video Level Adjustment

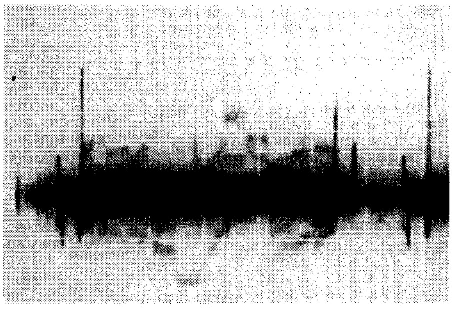
Note: Be sure carry out Item 3-5-2. G ch Video Level Adjustment before this adjustment.

Object : Grayscale chart
Equipment : Oscilloscope
To be extended : PR-143 board
Preparation :

- WHITE BAL switch (camera side panel) → PRESET
- OUTPUT switch (camera side panel) → CAM

Trigger : pin A5/extension board
Adjustment :

1. Adjust the zoom control so that the chart frame matches the underscanned picture frame on the screen.
2. Connect CH-1 of oscilloscope to TP8 (GND: E1)/PR-143 board, and make sure that the video level is 250 ± 5mV.
3. Connect CH-2 of oscilloscope to TP14 (GND: E1)/PR-143 board, and adjust ⊘RV16/PR-143 board so that the video level is about 250mV.
4. set the oscilloscope to ADD mode and CH-2 INVERT mode.
5. Readjust ⊘RV16/PR-143 board so that the waveform becomes flat.



Note: Do not adjust the iris control until the item 3-5-4. are completed.

3-5-4. R ch Video Level Adjustment

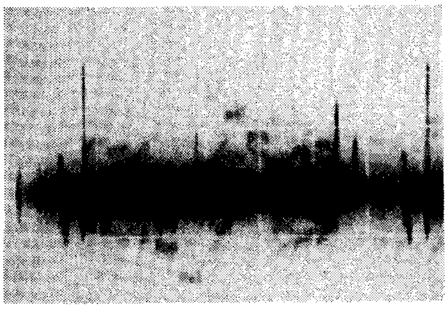
Note : Be sure to carry out Item 3-5-2. G ch Level Adjustment before this adjustment.

Object : Grayscale chart
Equipment : Oscilloscope
To be extended : PR-143 board
Preparation :

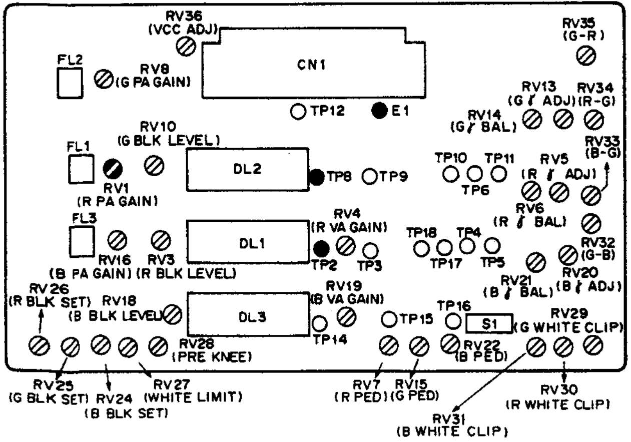
- Set the OUTPUT switch on the side of the camera to CAM.
- Set the WHITE BAL switch on the side of the camera to PRESET.

Trigger : pin A5/extension board
Adjustment :

1. Adjust the zoom control so that the chart frame matches the underscanned picture frame on the screen.
2. Connect CH-1 of oscilloscope to TP8 (GND: E1)/PR-143 board, and make sure that the video level is 250±5mV.
3. Connect CH-2 of oscilloscope to TP2 (GND: E1)/PR-143 board, and adjust ⊘RV1/PR-143 board so that the video level is about 250mV.
4. Set the oscilloscope to ADD mode and CH-2 INVERT mode.
5. Readjust ⊘RV1/PR-143 board so that the waveform becomes flat.



PR-143(-12) BOARD -COMPONENT SIDE-



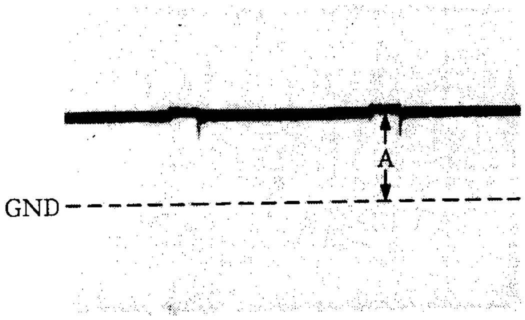
RV36
(VCC ADJ)
CN1
RV35
(G-R)
FL2
RV8
(G PA GAIN)
RV13
(G γ ADJ)
RV34
(R-G)
TP12
E1
RV14
(G γ BAL)
RV10
(G BLK LEVEL)
FL1
RV33
(B-G)
DL2
TP8
TP9
TP10
TP11
RV5
(R γ ADJ)
TP6
RV1
(R PA GAIN)
FL3
RV4
(R VA GAIN)
RV6
(R γ BAL)
DL1
TP18
TP4
RV32
(G-B)
RV16
RV3
TP2
TP3
TP17
TP5
(B PA GAIN)
(R BLK LEVEL)
RV20
(B γ ADJ)
RV21
(B γ BAL)
RV26
(R BLK SET)
RV18
(B BLK LEVEL)
RV19
(B VA GAIN)
DL3
TP16
TP15
S1
RV29
(G WHITE CLIP)
TP14
RV28
(PRE KNEE)
RV22
(B PED)
RV25
(G BLK SET)
RV24
(B BLK SET)
RV27
(WHITE LIMIT)
RV7
(R PED)
RV15
(G PED)
RV30
(R WHITE CLIP)
RV31
(B WHITE CLIP)

3-5-5. DC Set Adjustment

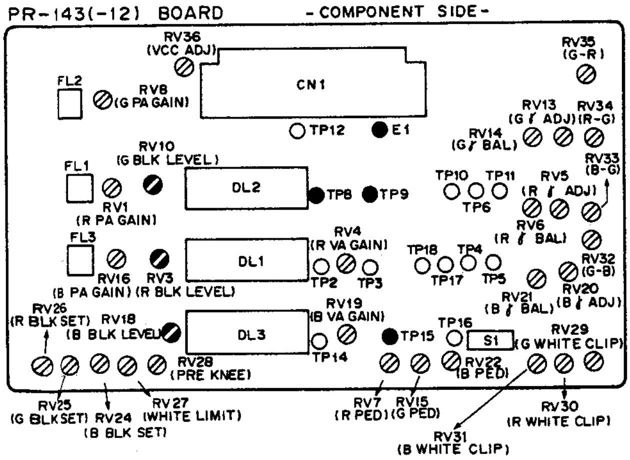
Lens iris : Close "C"
Equipment : Oscilloscope
Preparation : S2/AT-59 board → ADJ
To be extended : PR-143 board
Adjustment :

PR-143 board (GND : E1)

	Test Point	Adjusting point	Specification
G-ch	TP9	⊘ RV10	A = 0 ± 10mVdc
R-ch	TP8	⊘ RV3	
B-ch	TP15	⊘ RV18	



PR-143(-12) BOARD -COMPONENT SIDE-


RV36
(VCC ADJ)
CN1
FL2
RV8
(G PA GAIN)
TP12
E1
RV35
(G-R)
RV13
(G γ ADJ)
RV34
(R-G)
RV14
(G γ BAL)
RV10
(G BLK LEVEL)
FL1
DL2
TP8
TP9
RV1
(R PA GAIN)
TP10
TP11
TP6
RV5
(R γ ADJ)
RV33
(B-G)
RV6
(R γ BAL)
FL3
DL1
RV4
(R VA GAIN)
TP2
TP3
TP18
TP4
TP17
TP5
RV32
(G-B)
RV16
(B PA GAIN)
RV3
(R BLK LEVEL)
RV21
(B γ BAL)
RV20
(B γ ADJ)
RV26
(R BLK SET)
RV18
(B BLK LEVEL)
DL3
RV19
(B VA GAIN)
TP14
TP15
TP16
S1
RV29
(G WHITE CLIP)
RV28
(PRE KNEE)
RV22
(B PED)
RV25
(G BLK SET)
RV24
(B BLK SET)
RV27
(WHITE LIMIT)
RV7
(R PED)
RV15
(G PED)
RV31
(B WHITE CLIP)
RV30
(R WHITE CLIP)

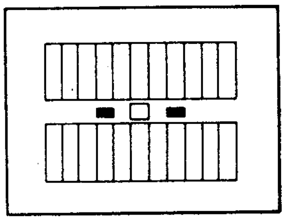
3-5-6. WHITE LIMIT Adjustment

Object : Grayscale chart
Equipment : Oscilloscope
To be extended : PR-143 board
Preparation :

- ⊘RV28/PR-143 board → fully clockwise ↻
- GAIN switch (camera side panel) → 0 dB

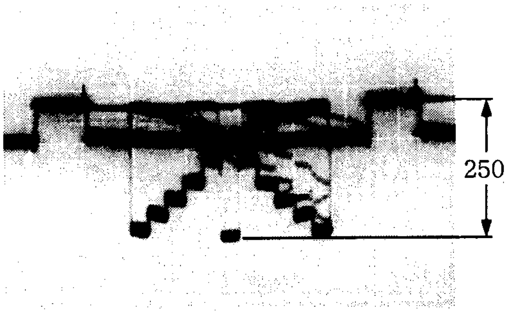
Trigger : pin A5/extension board
Adjustment :

1. Adjust the zoom control of the lens so that the chart frame matches the underscanned picture frame on the screen.



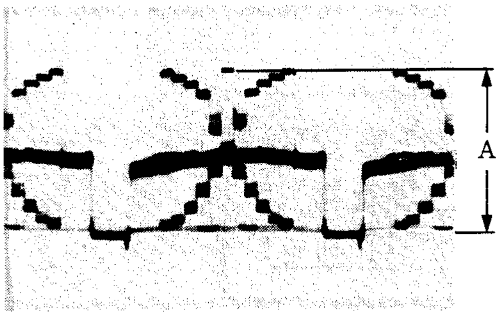
Monitor Screen

2. Adjust the iris control so that the video level at TP8 (GND : E1) /PR-143 board is 250 ± 5mV.



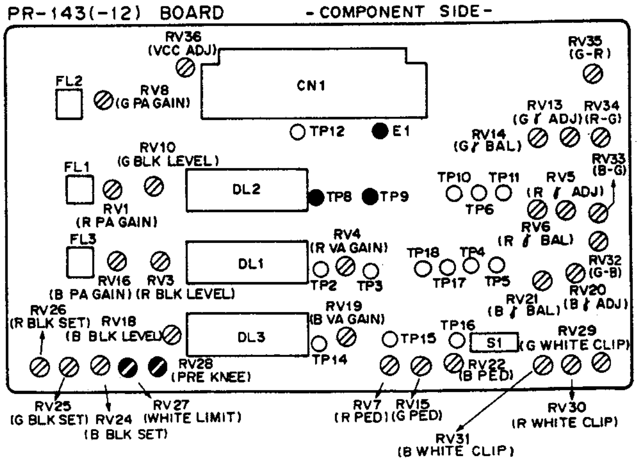
3. GAIN switch (camera side panel) → 9 dB

4. Adjust ⊘RV27/PR-143 board so that the white level at TP9 (GND : E1) /PR-143 board is "A".



- Serial No. : 10001-10370
  A = 1.2 ± 0.02V
- Serial No. : 10371 and higher
  A = 1.1 ± 0.02V

Note : After adjustment, carry out Item 3-5-7. PRE KNEE Adjustment.


PR-143(-12) BOARD
-COMPONENT SIDE-
RV36 (VCC ADJ)
CN1
RV35 (G-R)
FL2
RV8 (G PA GAIN)
TP12
E1
RV13 (G γ ADJ)
RV34 (R-G)
RV14 (G γ BAL)
RV10 (G BLK LEVEL)
FL1
DL2
TP8
TP9
TP10
TP11
TP6
RV5 (R γ ADJ)
RV33 (B-G)
RV1 (R PA GAIN)
RV6 (R γ BAL)
FL3
DL1
RV4 (R VA GAIN)
TP2
TP3
TP18
TP4
TP17
TP5
RV32 (G-B)
RV16 (B PA GAIN)
RV3 (R BLK LEVEL)
RV21 (B γ BAL)
RV20 (B γ ADJ)
RV26 (R BLK SET)
RV18 (B BLK LEVEL)
DL3
RV19 (B VA GAIN)
TP14
TP15
TP16
S1
RV29 (G WHITE CLIP)
RV28 (PRE KNEE)
RV22 (B PED)
RV25 (G BLK SET)
RV24 (B BLK SET)
RV27 (WHITE LIMIT)
RV7 (R PED)
RV15 (G PED)
RV31 (B WHITE CLIP)
RV30 (R WHITE CLIP)

3-5-7. PRE KNEE Adjustment

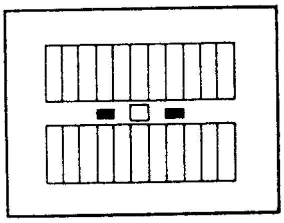
Note : Be sure to complete Item 3-5-6. WHITE LIMIT Adjustment.

Object : Grayscale chart
Equipment : Oscilloscope
To be extended : PR-143 board
Preparation :

- ⊘RV28/PR-143 board → fully clockwise ↻
- GAIN switch (camera side panel) → 0 dB

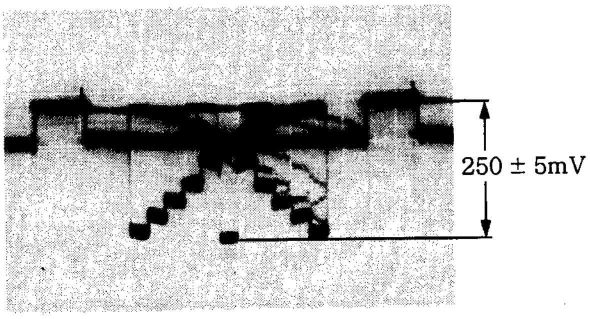
Trigger : pin A5/extension board
Adjustment :

1. Adjust the zoom control of the lens so that the chart frame matches the underscaned picture frame on the screen.



Monitor Screen

2. Adjust the iris control so that the video level at TP8 (GND : E1) /PR-143 board is 250 ± 5 mV.

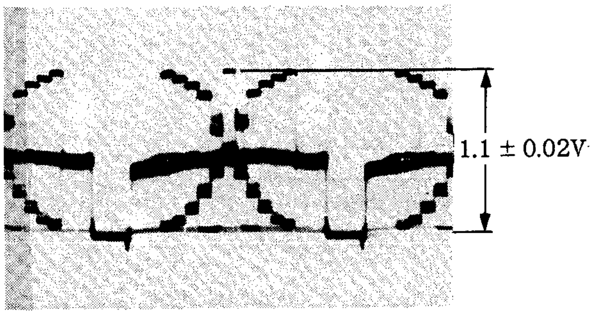


3. GAIN switch (camera side panel) → 9 dB

Serial No. 10001 – 10370

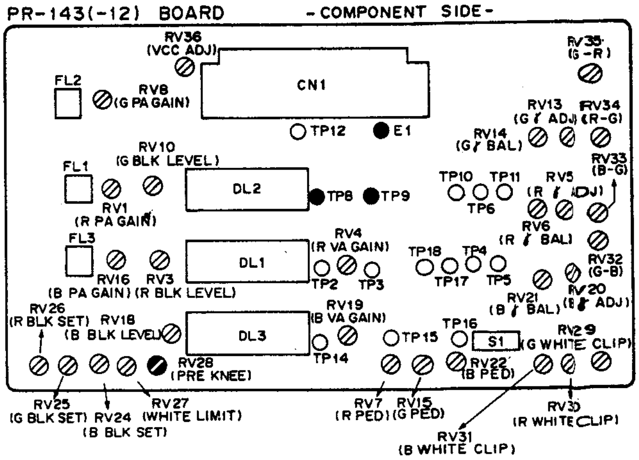
- *Note;*
  For units with serial number 10371 and higher, see item 3-5-18(a) PRE KNEE adjustment.

4. Adjust ⊘RV28/PR-143 board so that the white level at TP9 (GND : E1) /PR-143 board is 1.1 ± 0.02V.



Note : After ajustment, GAIN switch/camera side panel of 0dB.

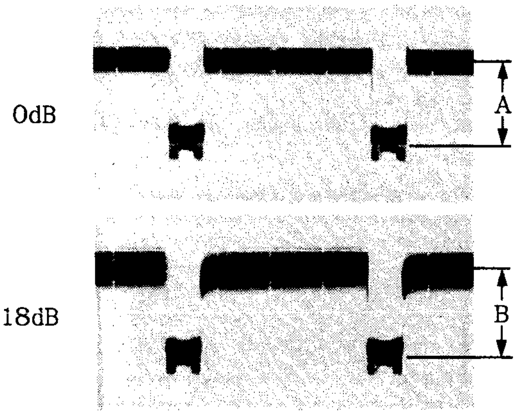
PR-143(-12) BOARD -COMPONENT SIDE-


RV36
(VCC ADJ)
CN1
FL2
RV8
(G PA GAIN)
RV35
(G-R)
RV13
(G γ ADJ)
RV34
(R-G)
RV14
(G γ BAL)
TP12
E1
RV10
(G BLK LEVEL)
FL1
DL2
TP8
TP9
TP10
TP11
TP6
RV5
(R γ ADJ)
RV33
(B-G)
RV1
(R PA GAIN)
FL3
RV4
(R VA GAIN)
DL1
TP2
TP3
TP18
TP4
TP17
TP5
RV6
(R γ BAL)
RV32
(G-B)
RV16
(B PA GAIN)
RV3
(R BLK LEVEL)
RV21
(B γ BAL)
RV20
(B γ ADJ)
RV26
(R BLK SET)
RV18
(B BLK LEVEL)
DL3
RV19
(B VA GAIN)
TP14
TP15
TP16
S1
RV29
(G WHITE CLIP)
RV28
(PRE KNEE)
RV22
(B PED)
RV25
(G BLK SET)
RV24
(B BLK SET)
RV27
(WHITE LIMIT)
RV7
(R PED)
RV15
(G PED)
RV30
(R WHITE CLIP)
RV31
(B WHITE CLIP)

3-5-8. Black Set and Pedestal Adjustments

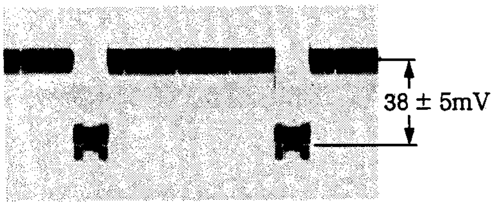
Lens iris : Close "C"
Equipment : Oscilloscope, Vectorscope (MAX GAIN)
Preparation :
•Set the S2 switch on the AT-59 board to ADJ.
To be extended : PR-143 board
Test point : TP12 (GND : E1) /PR-143 board
Adjustment :

1. Adjust ⊘RV25/PR-143 board so that pedestal level does not change when the GAIN switch on the side of the camera is switched over from 0 dB to 18 dB.

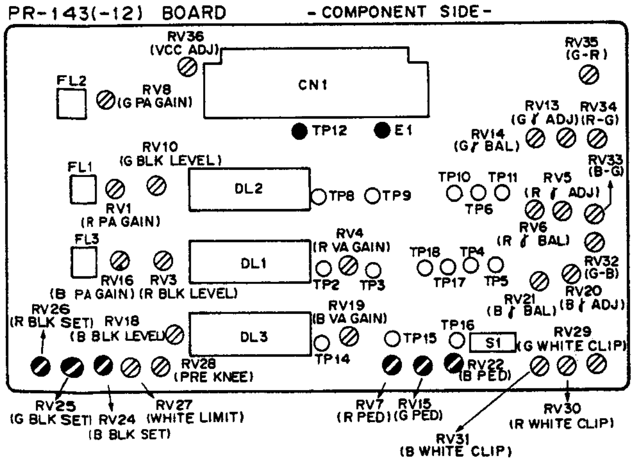


A = B

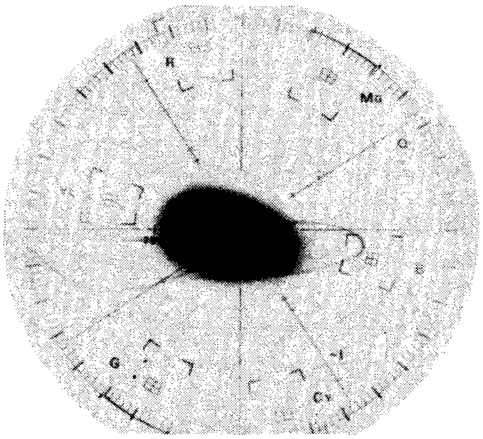
2. Set the GAIN switch on the side of the camera to 0 dB.
3. Adjust ⊘RV15/PR-143 board so that the pedestal level is 38 ± 5mV.



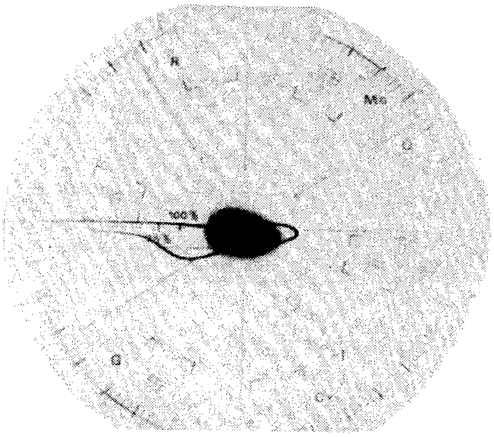
PR-143(-12) BOARD -COMPONENT SIDE-


RV36
(VCC ADJ)
CN1
RV35
(G-R)
FL2
RV8
(G PA GAIN)
RV13
(G γ ADJ)
RV34
(R-G)
TP12
E1
RV14
(G γ BAL)
RV10
(G BLK LEVEL)
RV33
(B-G)
FL1
DL2
TP8
TP9
TP10
TP11
RV5
(R γ ADJ)
TP6
RV1
(R PA GAIN)
RV6
(R γ BAL)
FL3
RV4
(R VA GAIN)
DL1
TP18
TP4
RV32
(G-B)
RV16
RV3
TP2
TP3
TP17
TP5
(B PA GAIN)
(R BLK LEVEL)
RV20
(B γ ADJ)
RV21
(B γ BAL)
RV26
(R BLK SET)
RV18
(B BLK LEVEL)
RV19
(B VA GAIN)
DL3
TP15
TP16
S1
RV29
(G WHITE CLIP)
TP14
RV28
(PRE KNEE)
RV22
(B PED)
RV25
(G BLK SET)
RV24
(B BLK SET)
RV27
(WHITE LIMIT)
RV7
(R PED)
RV15
(G PED)
RV30
(R WHITE CLIP)
RV31
(B WHITE CLIP)

4. Set the GAIN switch on the side of the camera to 18 dB
5. Adjust ⊘RV24 and ⊘RV26 on the PR-143 board so that the beam spot is in the center of the vectorscope.



6. Set the GAIN switch on the side of the camera to 0 dB.
7. Adjust ⊘RV7 and ⊘RV22/PR-143 board so that the beam spot is in the center of the vectorscope.



8. Repeat procedure 4 through procedure 7 several times.
9. Set the GAIN switch on the side of the camera to 0 dB.

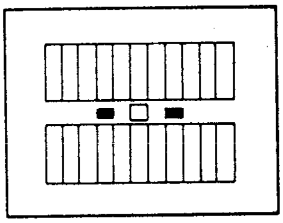
3-5-9. 1H GAIN Adjustment

Object : Grayscale chart
Equipment : Oscilloscope, Waveform monitor
To be extended : PR-143 board
Preparation :

- Set the OUTPUT switch on the side of the camera to BARS.
- Set the WHITE BAL switch on the side of the camera to PRESET.

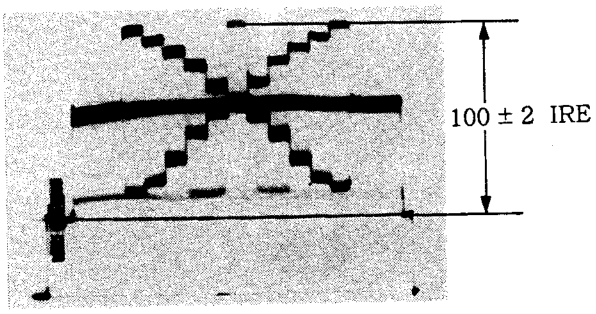
Test point : CH1 : TP9 (GND : E1) / PR-143 board
CH2 : TP9/IE-28 board
Trigger : pin A5/extension board
Adjustment point : ⊘RV1/IE-28 board
Adjustment :

1. Adjust the zoom control of the lens so that the chart frame matches the underscanned picture frame on the screen.

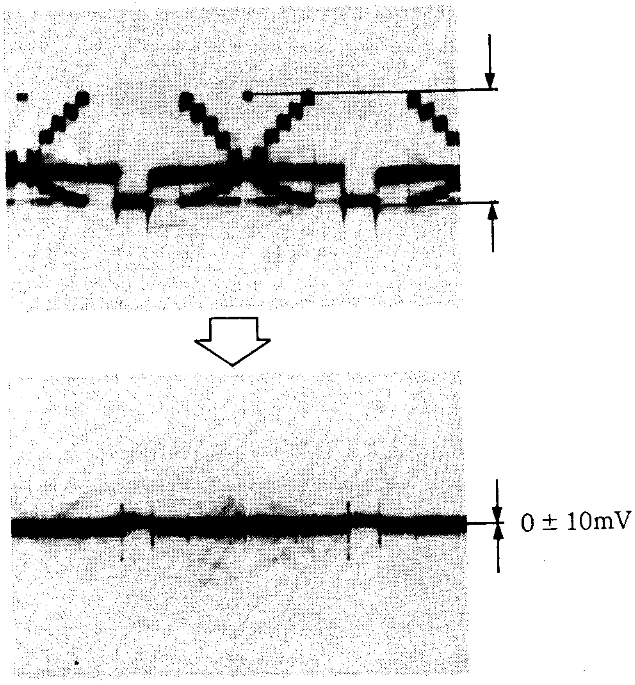


Monitor Screen

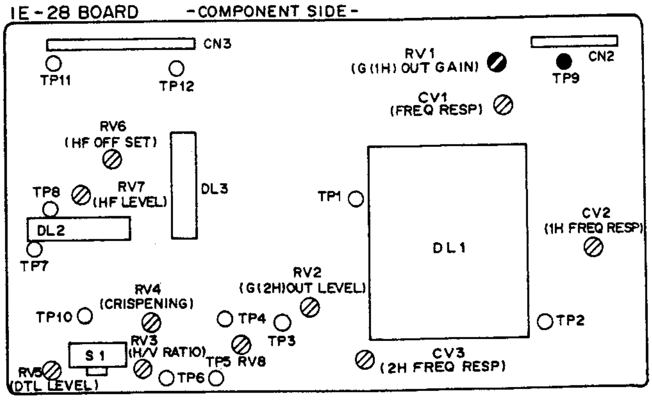
2. Adjust the iris control so that the video level at VIDEO OUT connector (camera side panel) is 100 ± 2 IRE.



3. Set the oscilloscope to ADD mode and CH-2 INVERT mode.
4. Connect CH-1 and CH-2 of oscilloscope to TP9 (GND : E1) / PR-143 board .
   Adjust CH2-VAR control on the oscilloscope so that the waveform becomes flat for gain correction.
5. Connect CH-1 of oscilloscope to TP9 (GND : E1) / PR-143 board and CH-2 to TP9/IE-28 board (GND : pin A1/ extension board).
6. Adjust ⊘RV1 / IE - 28 board so that the waveform becomes flat.



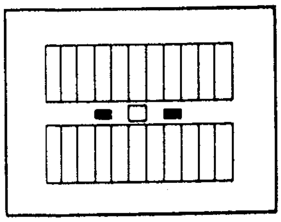
IE-28 BOARD -COMPONENT SIDE-


CN3
TP11
TP12
RV1
(G (1H) OUT GAIN)
CN2
TP9
CV1
(FREQ RESP)
RV6
(HF OFF SET)
TP8
RV7
(HF LEVEL)
DL3
DL2
TP7
TP1
DL1
CV2
(1H FREQ RESP)
RV2
(G (2H)OUT LEVEL)
RV4
(CRISPENING)
TP10
TP4
TP3
TP2
S 1
RV3
(H/V RATIO)
TP5
RV8
CV3
(2H FREQ RESP)
RV5
(DTL LEVEL)
TP6

3-5-10. 2H GAIN Adjustment

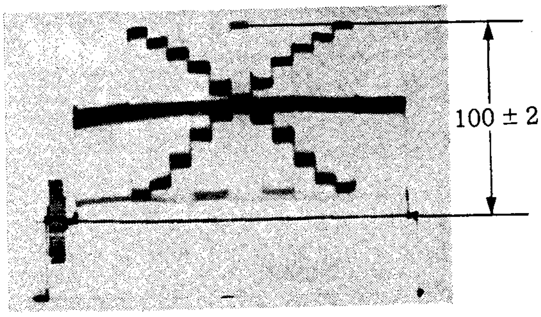
Object : Grayscale chart
Equipment : Oscilloscope
To be extended : PR-143 board
Test point : CH1 : TP9 (GND : E1) /PR-143 board
CH2 : TP3/IE-28 board (GND: pin A1/ extension board)
Trigger : pin A5/extension board
Adjustment point : ⊘ RV2/IE-28 board
Adjustment :

1. Adjust the zoom control of the lens so that the chart frame matches the underscanned picture frame on the screen.

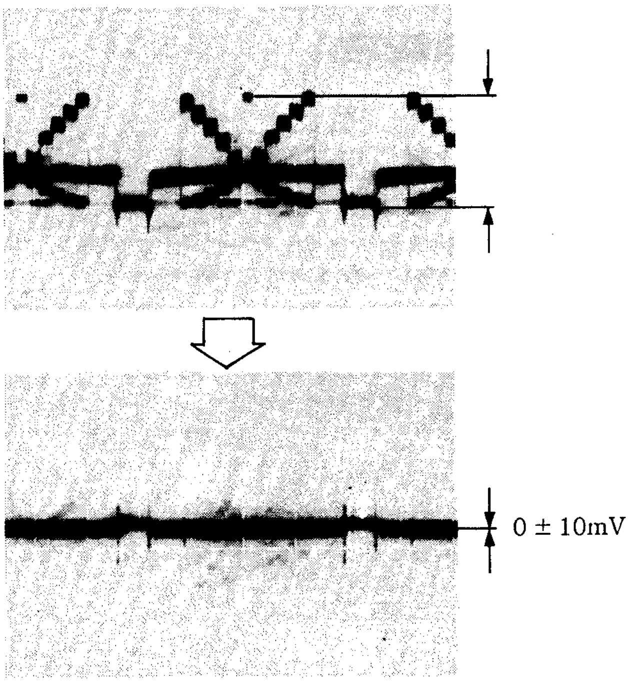


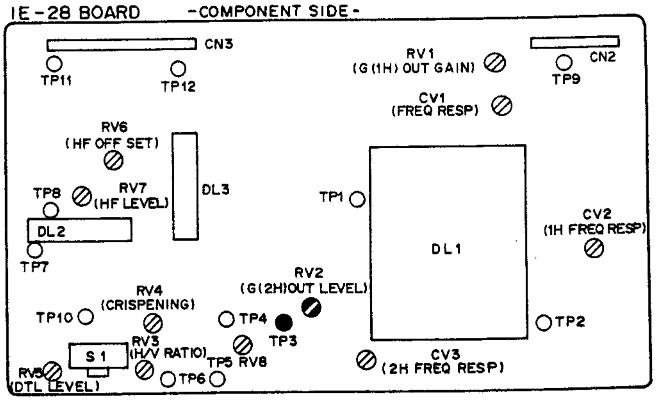
Monitor Screen

2. Adjust the iris control so that the video level at VIDEO OUT connector (camera side panel) is 100 ± 2 IRE.



3. Set the oscilloscope to ADD mode and CH-2 INVERT mode.
4. Connect CH-1 and CH-2 of oscilloscope to TP9 (GND: E1) /PR-143 board .
   Adjust CH2-VAR control on the oscilloscope so that the waveform becomes flat for gain correction.
5. Connect CH-1 of oscilloscope to TP9 (GND : E1) /PR-143 board and CH-2 to TP3/IE-28 board (GND : pin A1/ extension board).
6. Adjust ⊘RV2 / IE - 28 board so that the waveform becomes flat.



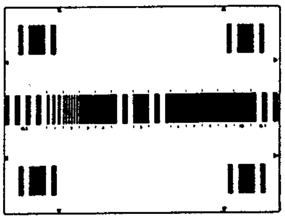

IE-28 BOARD -COMPONENT SIDE-
CN3
TP11
TP12
RV1 (G (1H) OUT GAIN)
CN2
TP9
CV1 (FREQ RESP)
RV6 (HF OFF SET)
TP8
RV7 (HF LEVEL)
DL3
TP1
CV2 (1H FREQ RESP)
DL2
TP7
DL1
RV2 (G (2H) OUT LEVEL)
RV4 (CRISPENING)
TP10
TP4
TP3
TP2
S 1
RV3 (H/V RATIO)
TP5 RV8
CV3 (2H FREQ RESP)
RV5 (DTL LEVEL)
TP6

3-5-11. 1H OUT Frequency Response Adjustment

Note: Perform this adjustment only when replacing a DL1 delay line on the IE-28 board.

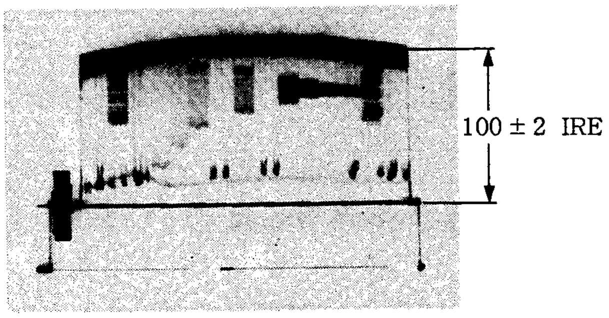
Object : Burst chart
Equipment : Oscilloscope, Waveform monitor
To be extended : PR-143 board
Adjustment :

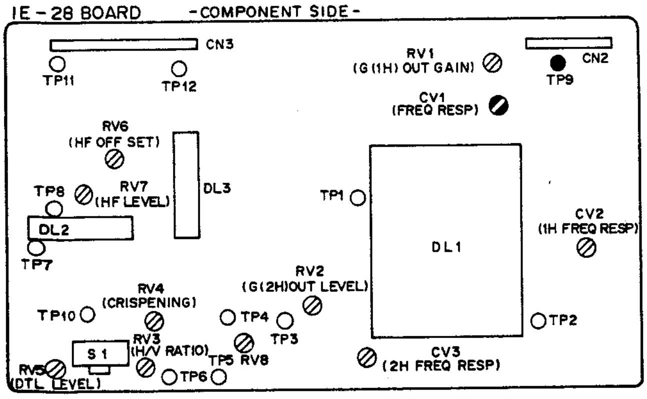
1. Adjust the zoom control of the lens so that the chart frame matches the underscanned picture frame on the screen.



Monitor Screen

2. Adjust the iris control so that the video level at VIDEO OUT connector (camera side panel) is 100 ± 2 IRE.



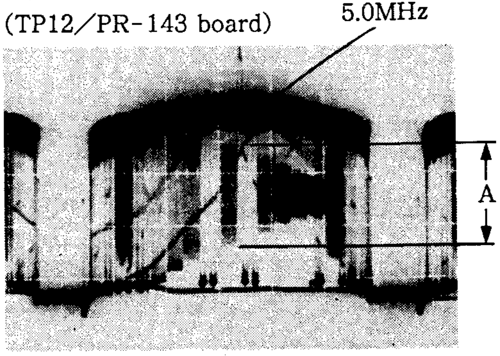

IE-28 BOARD -COMPONENT SIDE-
CN3
TP11
TP12
RV1 (G(1H) OUT GAIN)
CN2
TP9
CV1 (FREQ RESP)
RV6 (HF OFF SET)
TP8
RV7 (HF LEVEL)
DL3
TP1
DL2
DL1
CV2 (1H FREQ RESP)
TP7
RV2 (G(2H)OUT LEVEL)
RV4 (CRISPENING)
TP10
TP4
TP2
RV3 (H/V RATIO)
TP3
S1
TP5 RV8
CV3 (2H FREQ RESP)
RV5 (DTL LEVEL)
TP6

3. Adjust ⊘CV1/IE-28 board so that the input level and output level at 5.0MHz portion are almost equal as shown below.

IE-28 board (GND : E1/PR-143 board)

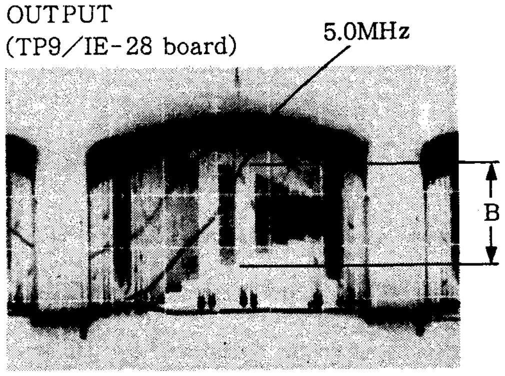
Test point (Input signal)	Test point (Ouput signal)	Adjusting point	Specification (5.0MHz)
TP12/ PR-143 board	TP9/ IE-28 board	⊘CV1	A ≒ B

INPUT
(TP12/PR-143 board)



A ≒ B

OUTPUT
(TP9/IE-28 board)

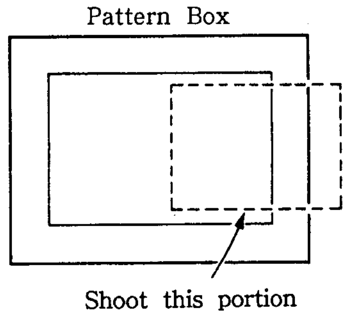


3-5-12. 1H OUT Phase Adjustment

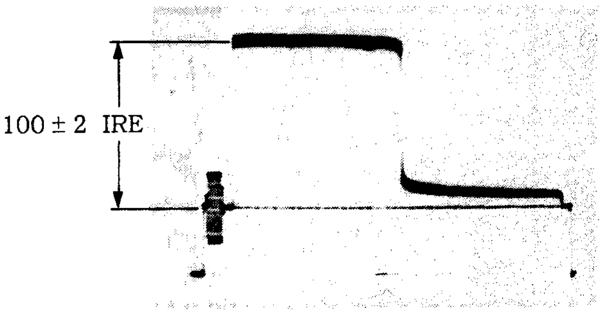
Note : Perform this adjustment only when replacing a DL1 delay line on the IE-28 board.

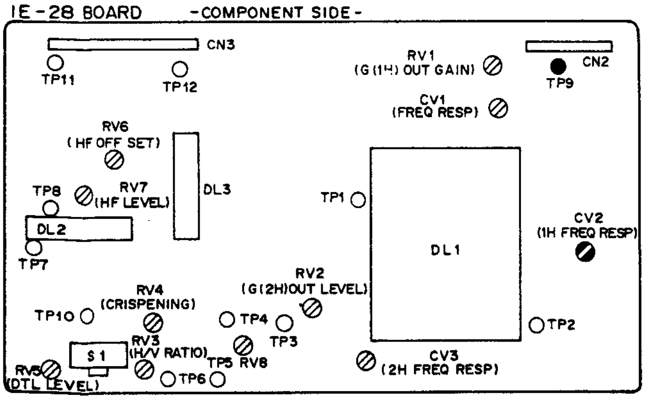
Object : White portion of pattern box
Equipment : Oscilloscope, Waveform monitor
To be extended : PR-143 board
Trigger : pin A5/extension board
Adjustment :

1. Shoot the white portion of the pattern box as shown below.

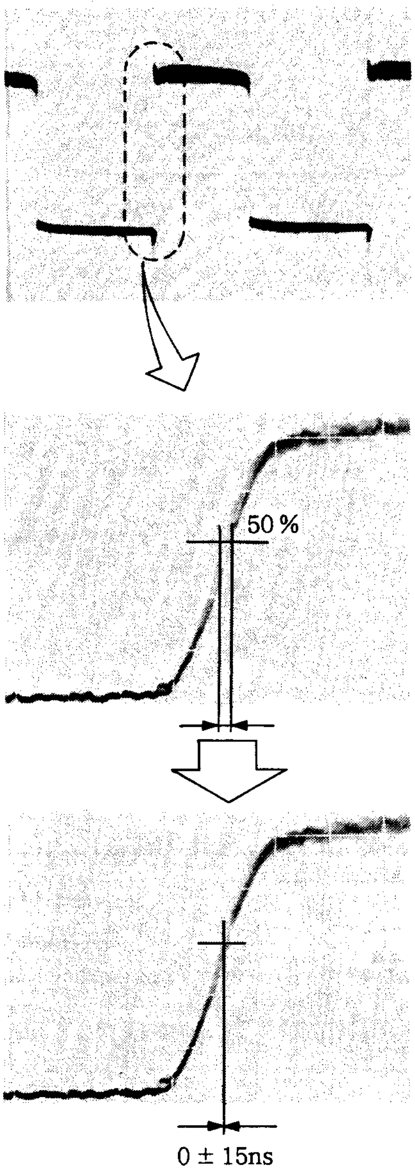

Pattern Box
Shoot this portion

2. Adjust the iris control so that the video level at VIDEO OUT connector (camera side panel) is 100 ± 2 IRE.




IE-28 BOARD -COMPONENT SIDE-
CN3
TP11
TP12
RV1 (G(1H) OUT GAIN)
CN2
TP9
CV1 (FREQ RESP)
RV6 (HF OFF SET)
TP8
RV7 (HF LEVEL)
DL3
DL2
TP7
TP1
DL1
CV2 (1H FREQ RESP)
RV2 (G(2H)OUT LEVEL)
RV4 (CRISPENING)
TP10
TP4
TP3
TP2
S1
RV3 (H/V RATIO)
TP5 RV8
TP6
CV3 (2H FREQ RESP)
RV5 (DTL LEVEL)

3. Connect CH-1 of oscilloscope to TP9 (GND : E1) /PR-143 board.
4. Connect CH-2 of oscilloscope to TP9/IE-28 board (GND : pin A1/extension board).
5. Adjust ⊘CV2/IE-28 board so that the waveform phase between the CH1 and CH2 is coincided.



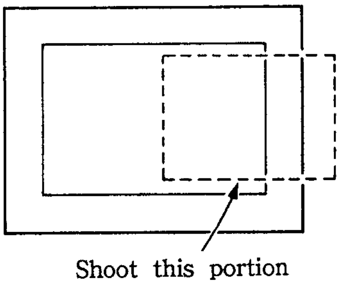
3-5-13. 2H OUT Phase Adjustment

Note : Perform this adjustment only when replacing a DL1 delay line on the IE-28 board.

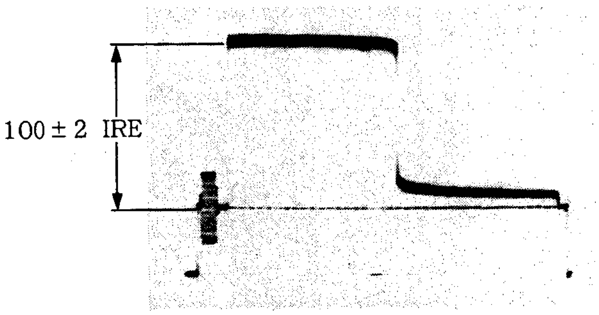
Object : White portion of pattern box
Equipment : Oscilloscope, Waveform monitor
To be extended : PR-143 board
Trigger : pin A5/extension board
Adjustment :

1. Shoot the white portion of the pattern box as shown below.

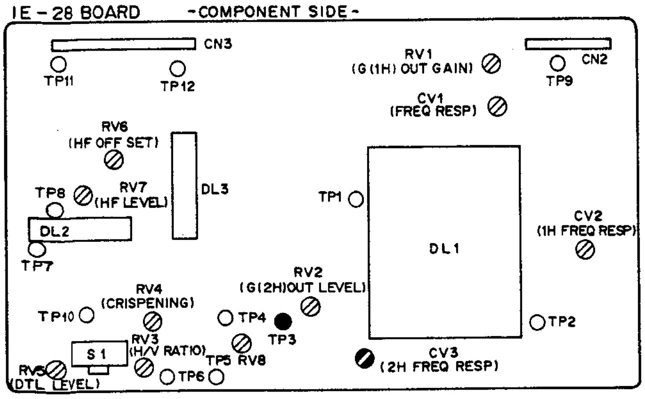
Pattern Box


Shoot this portion

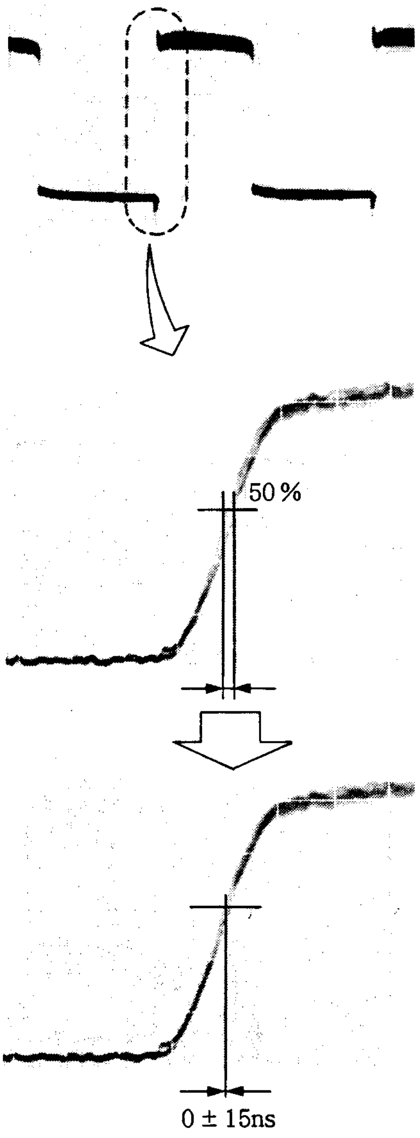
2. Adjust the iris control so that the video level at VIDEO OUT connector (camera side panel) is 100 ± 2 IRE.



IE-28 BOARD -COMPONENT SIDE-


CN3
TP11
TP12
RV1
(G (1H) OUT GAIN)
CN2
TP9
CV1
(FREQ RESP)
RV6
(HF OFF SET)
TP8
RV7
(HF LEVEL)
DL3
TP1
DL2
CV2
(1H FREQ RESP)
DL1
TP7
RV2
(G(2H)OUT LEVEL)
RV4
(CRISPENING)
TP10
TP4
TP2
TP3
S 1
RV3
(H/V RATIO)
TP5
RV8
CV3
(2H FREQ RESP)
RV5
(DTL LEVEL)
TP6

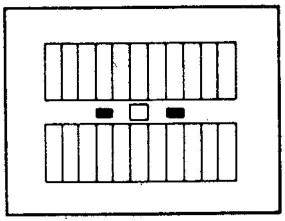
3. Connect CH-1 of oscilloscope to TP9 (GND : E1) /PR-143 board.
4. Connect CH-2 of oscilloscope to TP3/IE-28 board (GND : pin A1/extension board).
5. Adjust ⊘CV3/IE-28 board so that the waveform phase between the CH1 and CH2 is coincided.



3-5-14. R/B PRESET WHITE Adjustment

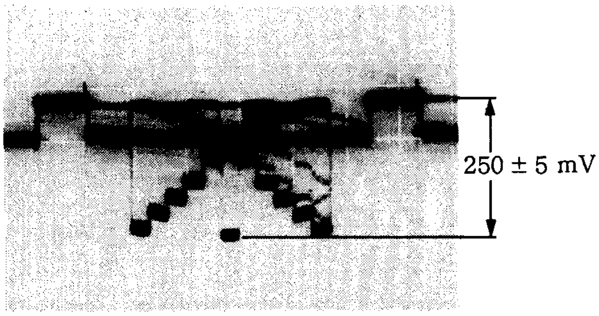
Object : Grayscale chart
Equipment : Oscilloscope
To be extended : PR-143 board
Trigger : pin A5/extension board
Adjustment :

1. Adjust the zoom control of the lens so that the chart frame matches the underscanned picture frame on the screen.



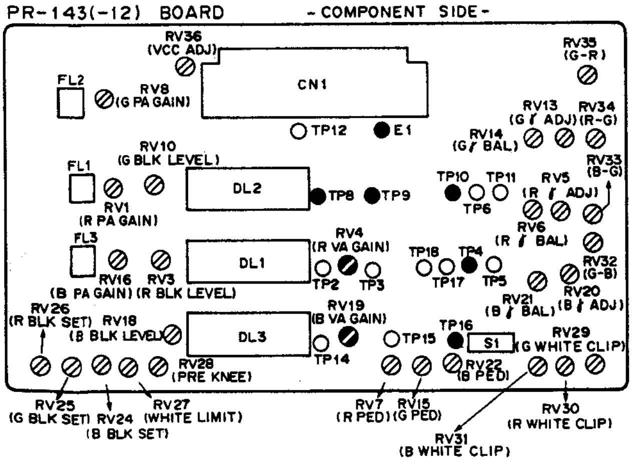
Monitor Screen

2. Adjust the iris control so that the video level at TP8 (GND : E1) /PR-143 board is 250 ± 5mV.

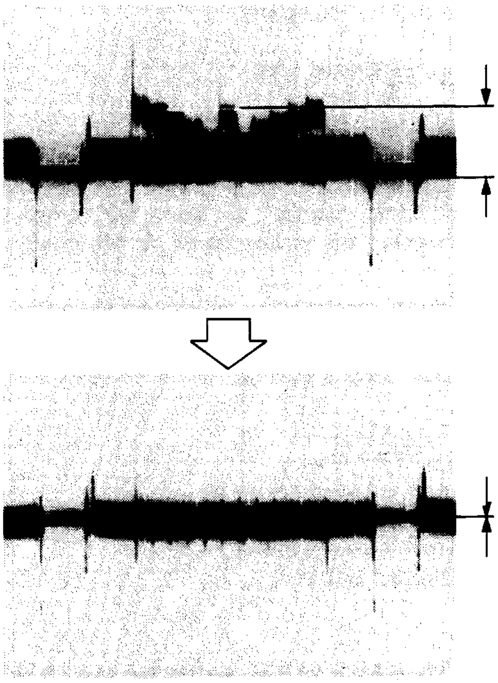


3. Set the oscilloscope to ADD mode and CH-2 INVERT mode.
4. Connect CH-1 and CH-2 of oscilloscope to TP9 (GND : E1) /PR-143 board.
   Adjust CH2-VAR control on the oscilloscope so that the waveform becomes flat for gain correction.

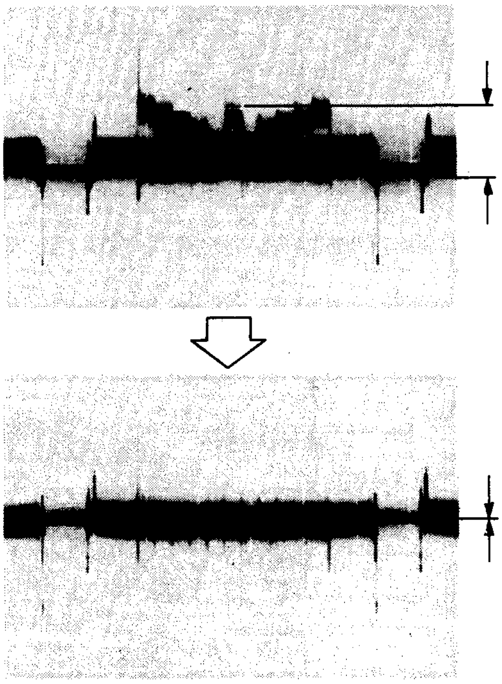
PR-143(-12) BOARD - COMPONENT SIDE -


RV36
(VCC ADJ)
CN1
RV35
(G-R)
FL2
RV8
(G PA GAIN)
TP12
E1
RV13
(G γ ADJ)
RV34
(R-G)
RV14
(G γ BAL)
RV10
(G BLK LEVEL)
FL1
DL2
TP8
TP9
TP10
TP11
TP6
RV5
(R γ ADJ)
RV33
(B-G)
RV1
(R PA GAIN)
FL3
RV4
(R VA GAIN)
DL1
TP2
TP3
TP18
TP4
TP17
TP5
RV6
(R γ BAL)
RV32
(G-B)
RV16
(B PA GAIN)
RV3
(R BLK LEVEL)
RV21
(B γ BAL)
RV20
(B γ ADJ)
RV26
(R BLK SET)
RV18
(B BLK LEVEL)
DL3
RV19
(B VA GAIN)
TP14
TP15
TP16
S1
RV29
(G WHITE CLIP)
RV28
(PRE KNEE)
RV22
(B PED)
RV25
(G BLK SET)
RV24
(B BLK SET)
RV27
(WHITE LIMIT)
RV7
(R PED)
RV15
(G PED)
RV31
(B WHITE CLIP)
RV30
(R WHITE CLIP)

5. Connect CH-1 of oscilloscope to TP10 (GND : E1) and CH-2 to TP4 (GND : E1) on the PR-143 board. Adjust ⊘RV4/PR-143 board so that the waveform becomes flat.



6. Connect CH-1 of oscilloscope to TP10 (GND : E1) and CH-2 to TP16 (GND : E1) on the PR-143 board. Adjust ⊘RV19/PR-143 board so that the waveform becomes flat.

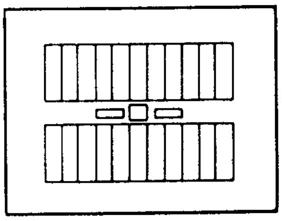


3-5-15. G ch Gamma Balance and Gamma Set Adjustment

Note : After this adjustment, perform the item 3-5-16. and the item 3-5-17. adjustment.

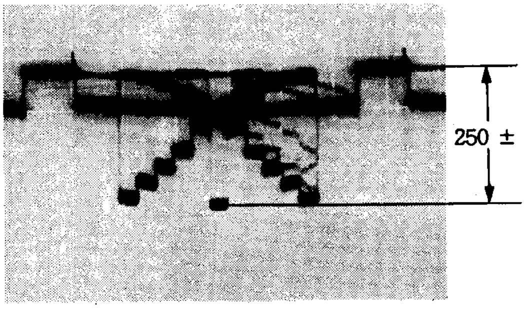
Object : Grayscale chart
Equipment : Oscilloscope
To be extended : PR-143 board
Trigger : pin A5/extension board
Adjustment :

1. Adjust the zoom control so that the grayscale chart frame matches the underscanned picture frame on the screen.



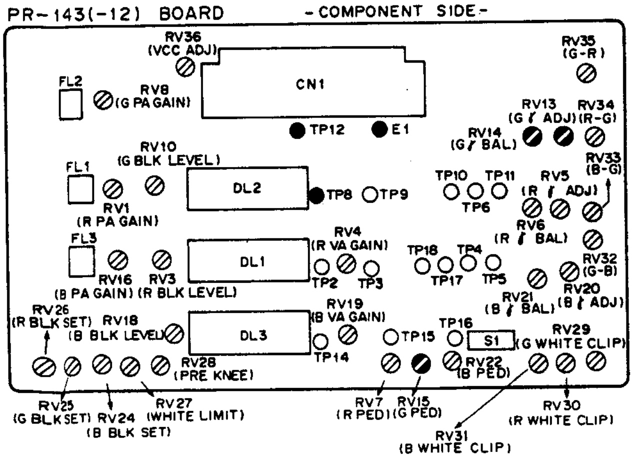
Monitor Screen

2. Adjust the iris control so that the video level at TP8 (GND : E1) / PR-143 board is 250 ± 5mV on the oscilloscope.

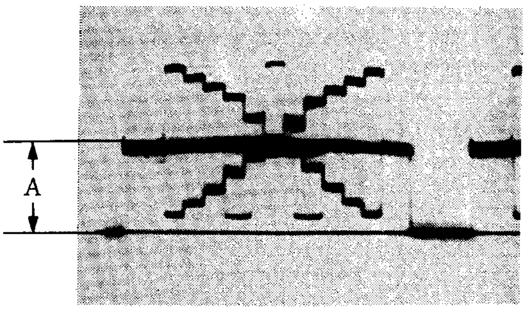


3. Connect a probe of oscilloscope to TP12 (GND : E1) /PR-143 board.

PR-143(-12) BOARD -COMPONENT SIDE-

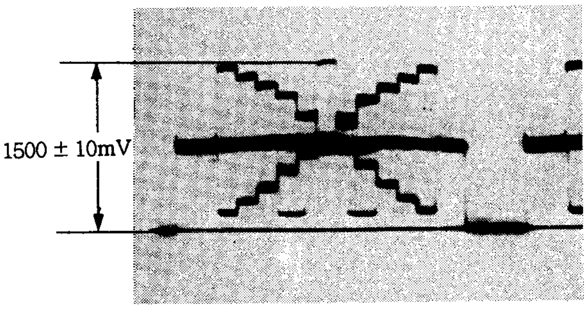

RV36
(VCC ADJ)
CN1
FL2
RV8
(G PA GAIN)
RV35
(G-R)
RV13
(G γ ADJ)
RV34
(R-G)
TP12
E1
RV14
(G γ BAL)
RV10
(G BLK LEVEL)
FL1
DL2
TP8
TP9
TP10
TP11
TP6
RV5
(R γ ADJ)
RV33
(B-G)
RV1
(R PA GAIN)
FL3
RV4
(R VA GAIN)
DL1
TP2
TP3
TP18
TP4
TP17
TP5
RV6
(R γ BAL)
RV32
(G-B)
RV16
(B PA GAIN)
RV3
(R BLK LEVEL)
RV20
(B γ ADJ)
RV21
(B γ BAL)
RV26
(R BLK SET)
RV18
(B BLK LEVEL)
DL3
RV19
(B VA GAIN)
TP14
TP15
TP16
S1
RV29
(G WHITE CLIP)
RV28
(PRE KNEE)
RV22
(B PED)
RV25
(G BLK SET)
RV24
(B BLK SET)
RV27
(WHITE LIMIT)
RV7
(R PED)
RV15
(G PED)
RV30
(R WHITE CLIP)
RV31
(B WHITE CLIP)

4. Adjust ⊘RV13/PR-143 board so that the cross point level of the video signal is "A".

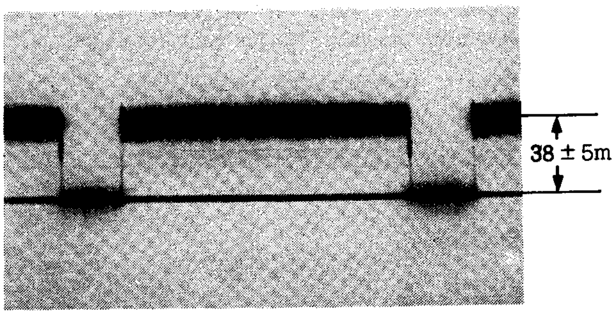


- Serial No. : 10001-10370 ; A = 850 ± 10mV
- Serial No. : 10371 and higher ; A = 900 ± 10mV

5. Adjust ⊘RV14/PR-143 board so that the white level of grayscale chart is 1500 ± 10mV.



6. Cover the lens with lens cap.
7. Adjust ⊘RV15/PR-143 board so that the pedestal level is 38 ± 5mV.



8. Remove the lens cap.
9. Repeat procedure 4 through procedure 8 several times.
10. Do not adjust the iris control until the item 3-5-16. and the item 3-5-17. are completed.

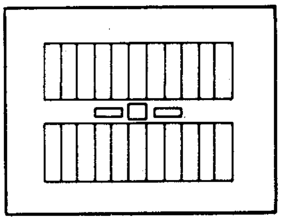
3-5-16. R ch Gamma Balance Adjustment

Note : The item 3-5-15. must be done before this adjustment.

Object : Grayscale chart
Equipment : Oscilloscope
To be extended : PR-143 board
Trigger : Pin A5/extension board

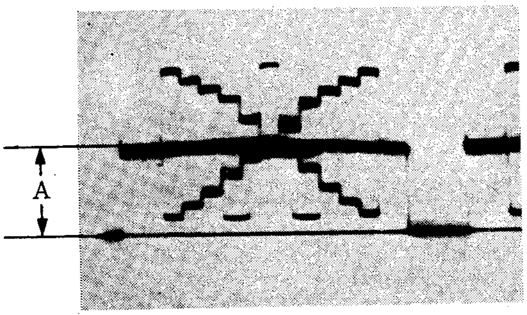
Adjustment :

1. Adjust the zoom control so that the Grayscale chart frame matches the underscanned picture frame on the screen.



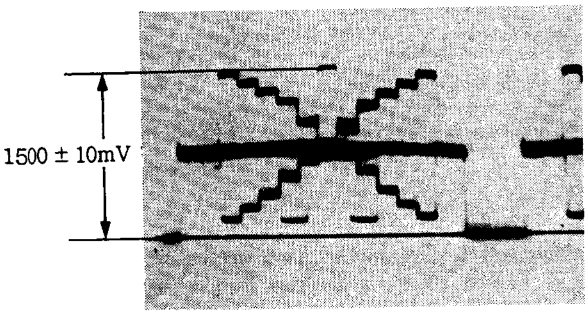
Monitor Screen

2. make sure that the video level at TP8 (GND : E1) /PR-143 board is 250 ± 5mV.
3. Connect a probe of oscilliscope to TP6 (GND : E1) /PR-143 board.
4. Adjust ⊘RV5/PR-143 board so that the crosspoint level of the video signal is "A".

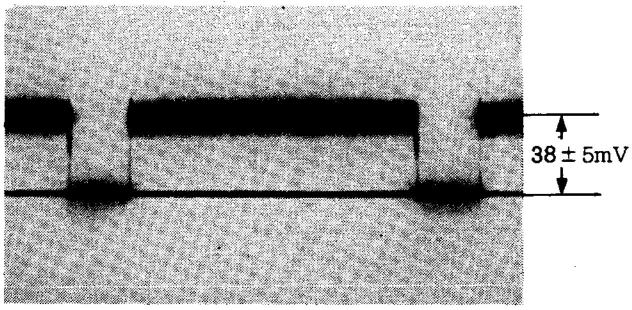


- Serial No. : 10001-10370 ; A = 850 ± 10mV
- Serial No. : 10371 and higher ; A = 900 ± 10mV

5. Adjust ⊘RV6/PR-143 board so that the wlite level of grayscale chart is 1500 ± 10mV.

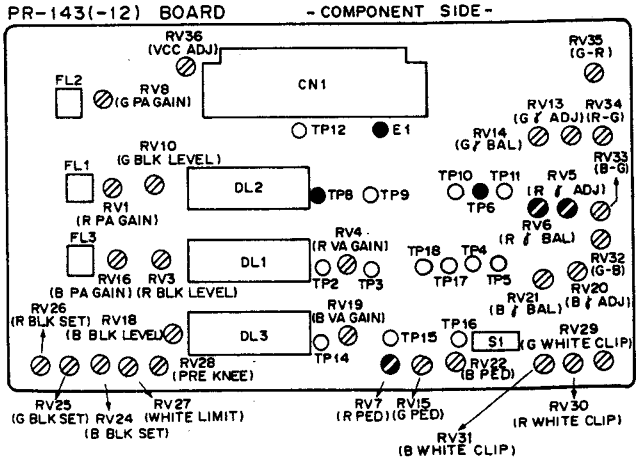


6. Cover the lens with lens cap.
7. Adjust ⊘RV7/PR-143 board so that the pedestal level is 38 ± 5mV.



8. Remove the lens cap.
9. Repeat procedure 4 through procedure 8 several times.
10. Do not adjust the iris control until the item 3-5-17. are completed.

PR-143(-12) BOARD -COMPONENT SIDE-


RV36
(VCC ADJ)
CN1
RV35
(G-R)
FL2
RV8
(G PA GAIN)
TP12
E1
RV13
(G γ ADJ)
RV34
(R-G)
RV14
(G γ BAL)
RV10
(G BLK LEVEL)
FL1
DL2
TP8
TP9
TP10
TP11
TP6
RV5
(R γ ADJ)
RV33
(B-G)
RV1
(R PA GAIN)
RV6
(R γ BAL)
FL3
DL1
RV4
(R VA GAIN)
TP2
TP3
TP18
TP4
TP17
TP5
RV32
(G-B)
RV16
(B PA GAIN)
RV3
(R BLK LEVEL)
RV21
(B γ BAL)
RV20
(B γ ADJ)
RV26
(R BLK SET)
RV18
(B BLK LEVEL)
DL3
RV19
(B VA GAIN)
TP14
TP15
TP16
S1
RV29
(G WHITE CLIP)
RV28
(PRE KNEE)
RV22
(B PED)
RV25
(G BLK SET)
RV24
(B BLK SET)
RV27
(WHITE LIMIT)
RV7
(R PED)
RV15
(G PED)
RV30
(R WHITE CLIP)
RV31
(B WHITE CLIP)

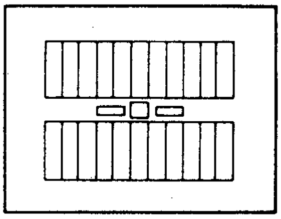
3-5-17. B ch Gamma Balance Adjustment

Note : The item 3-5-15. must be done before this adjustment.

Object : Grayscale chart
Equipment : Oscilloscope
To be extended : PR-143 board

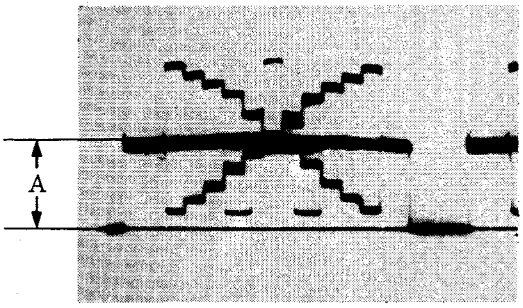
Trigger : Pin A5/extension board

1. Adjust the zoom control so that the Grayscale chart frame matches the underscanned picture frame on the screen.



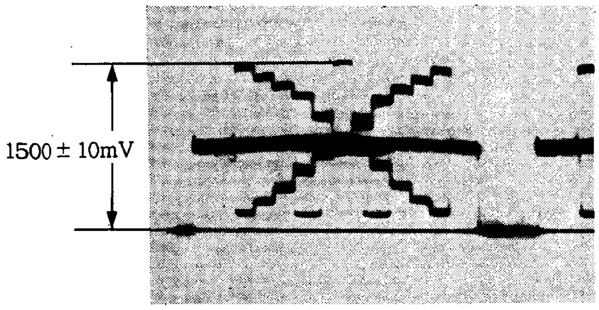
Monitor Screen

2. Make sure that the video level at TP8 (GND : E1) /PR-143 board is 250 ± 5mV.
3. Connect a probe of oscillescope to TP18 (GND : E1) /PR-143 board.
4. Adjust ⊘RV20/PR-143 board so that the cross point level of the video signal is "A".

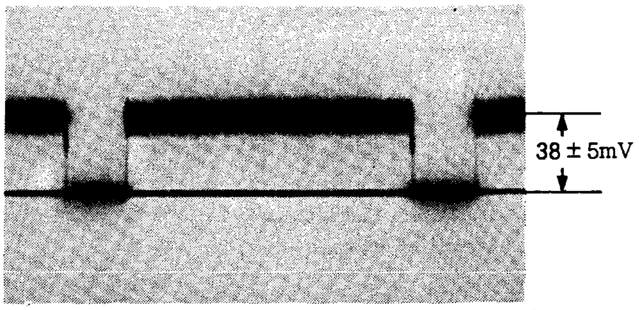


- Serial No. : 10001-10370 ; A = 850 ± 10mV
- Serial No. : 10371 and higher ; A = 900 ± 10mV

5. Adjust ⊘RV21/PR-143 board so that the white level of grayscale chart is 1500 ± 10mV.

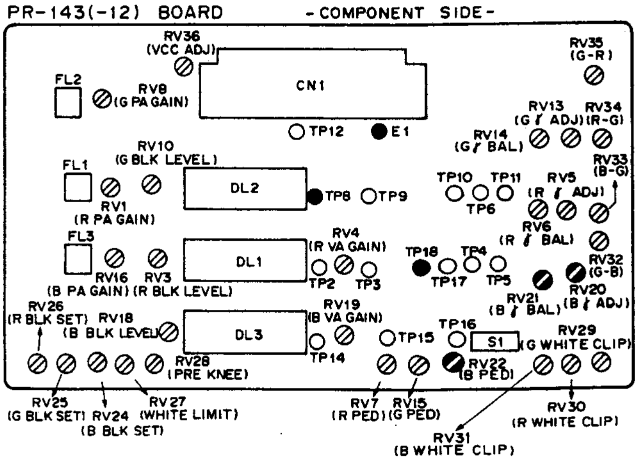


6. Cover the lens with lens cap.
7. Adjust ⊘RV22/PR-143 board so that the pedestal level is 38 ± 5mV.



8. Remove the lens cap.
9. Repeat procedure 4 through procedure 8 several times.

PR-143(-12) BOARD -COMPONENT SIDE-

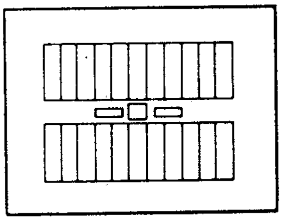

RV36
(VCC ADJ)
CN1
FL2
RV8
(G PA GAIN)
RV35
(G-R)
RV13
(G γ ADJ)
RV34
(R-G)
RV14
(G γ BAL)
TP12
E1
RV10
(G BLK LEVEL)
FL1
DL2
TP8
TP9
TP10
TP11
TP6
RV5
(R γ ADJ)
RV33
(B-G)
RV1
(R PA GAIN)
FL3
RV4
(R VA GAIN)
DL1
TP2
TP3
TP18
TP17
TP4
TP5
RV6
(R γ BAL)
RV32
(G-B)
RV20
(B γ ADJ)
RV21
(B γ BAL)
RV16
(B PA GAIN)
RV3
(R BLK LEVEL)
RV26
(R BLK SET)
RV18
(B BLK LEVEL)
DL3
RV19
(B VA GAIN)
TP14
TP15
TP16
S1
RV29
(G WHITE CLIP)
RV28
(PRE KNEE)
RV22
(B PED)
RV25
(G BLK SET)
RV24
(B BLK SET)
RV27
(WHITE LIMIT)
RV7
(R PED)
RV15
(G PED)
RV31
(B WHITE CLIP)
RV30
(R WHITE CLIP)

Note : After adjustment is completed, perform the item 3-5-16. R/B-ch Gamma Balance Adjustment.

3-5-18. R/B ch Gamma Set and Preset Adjustment

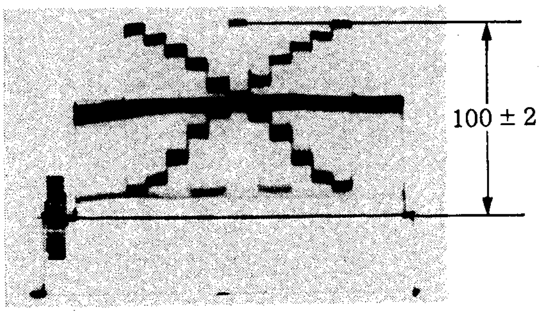
Object : Grayscale chart
Equipment : Waveform monitor, Vectorscope (MAX GAIN)
To be extended: PR-143 board
Adjustment :

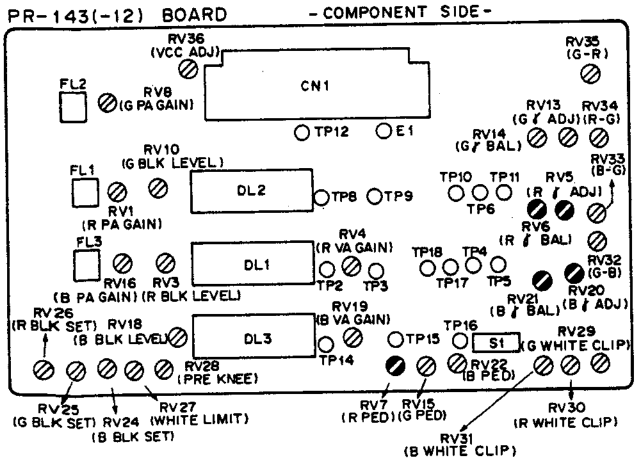
1. Adjust the zoom control so that the Grayscale chart frame matches the underscanned picture frame on the screen.



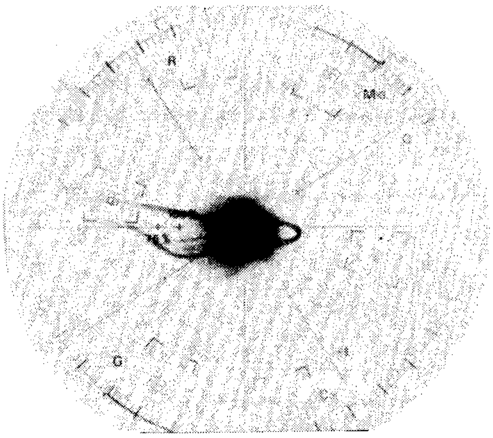
Monitor Screen

2. Adjust the iris control so that the video level is 100 ± 2 IRE on the waveform monitor.

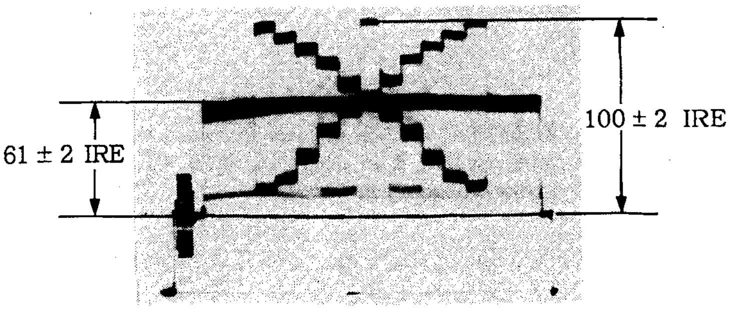



PR-143(-12) BOARD
- COMPONENT SIDE -
RV36 (VCC ADJ)
CN1
RV35 (G-R)
FL2
RV8 (G PA GAIN)
RV13 (G γ ADJ)
RV34 (R-G)
TP12
E1
RV14 (G γ BAL)
RV10 (G BLK LEVEL)
FL1
RV33 (B-G)
DL2
TP8
TP9
TP10
TP11
RV5 (R γ ADJ)
TP6
RV1 (R PA GAIN)
RV6 (R γ BAL)
FL3
RV4 (R VA GAIN)
DL1
TP18
TP4
RV32 (G-B)
RV16
RV3
TP2
TP3
TP17
TP5
RV20 (B γ ADJ)
(B PA GAIN)
(R BLK LEVEL)
RV21 (B γ BAL)
RV26 (R BLK SET)
RV18 (B BLK LEVEL)
RV19 (B VA GAIN)
DL3
TP15
TP16
S1
RV29 (G WHITE CLIP)
TP14
RV28 (PRE KNEE)
RV22 (B PED)
RV25 (G BLK SET)
RV24 (B BLK SET)
RV27 (WHITE LIMIT)
RV7 (R PED)
RV15 (G PED)
RV30 (R WHITE CLIP)
RV31 (B WHITE CLIP)

3. ⊘RV5/PR-143 board
   ⊘RV20/PR-143 board
   Alternately adjust the above two controls several times so that the beam spot is in the center of vectorscope.
4. ⊘RV6/PR-143 board
   ⊘RV21/PR-143 board
   Altenately adjust the above two controls several times so that the beam spot is in the center of vectorscope.



5. Cover the lens with lens cap.
6. Alternately adjust ⊘RV7 and ⊘RV22 on the PR-143 board several times so that beam spot is in the center of vectorscope.
7. Remove the lens cap.
8. Repeat procedure 3 through procedure 7 several times.
9. After the adjustment, the following specifications must be met.
   If not, perform from Item 3-5-2. G ch Video Level Adjustment once more.


61 ± 2 IRE
100 ± 2 IRE

3-5-18 (a). PRE KNEE Adjustment

Serial No. 10371 and higher

Note :
The following items must be done before this Adjustment :

- Item 3-5-6. White Limit Adjustment
- Item 3-5-15. G ch Gamma Balance and Gamma Set Adjustment
- Item 3-5-16. R ch Gamma Balance Adjustment
- Item 3-5-17. B ch Gamma Balance Adjustment
- Item 3-5-18. R/B ch Gamma Set and Preset Adjustment

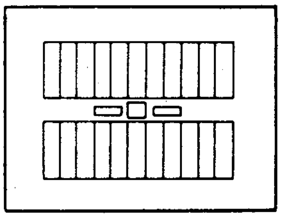
Object : Grayscale chart
Equipment : Waveform monitor
To be extended : PR-143 board
Preparation :

- Set the GAIN switch on the side of the camera to 0 dB.
- ⊘RV28, 29, 30, 31/PR-143 board→Fully clockwise ↻

Trigger : pin A5/extension board
Adjustment point : ⊘RV28/PR-143 board

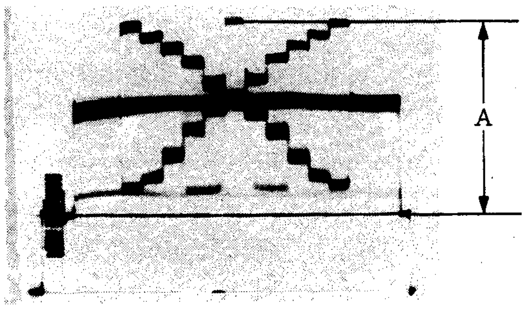
Adjustment procedures

1. Adjustment the zoom control of the lens so that the chart frame matches the underscanned picture frame on the screen.



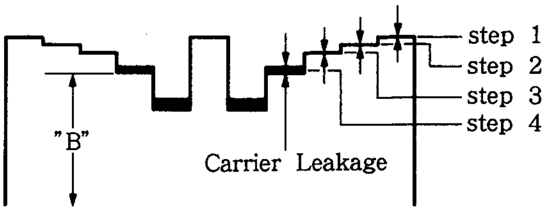
Monitor Screen

2. Adjustment the ires control so that the video level "A" at VIDEO OUT connector (camera side panel) is 99 ± 1 IRE.



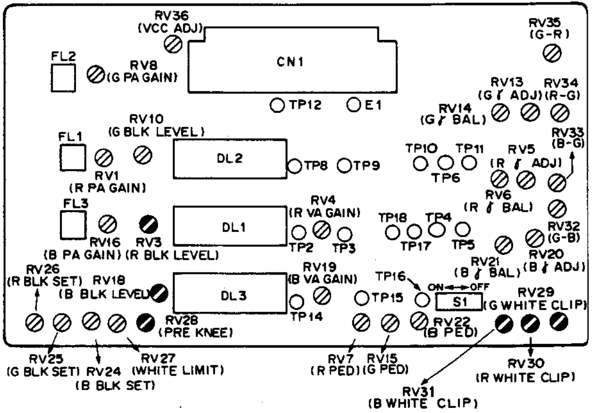
3. Turn ⊘RV28/PR-143 counterclockwise slowly from fully clockwise and stop where the level "A" at VIDEO OUT connector becomes 97 ± 1 IRE.

4. Adjust the iris control slowly and stop where the level "B" at VIDEO OUT connector is 100 ± 1 IRE as shown below.


step 1
step 2
step 3
step 4
"B"
Carrier Leakage

5. Alternately readjust ⊘RV3 and ⊘RV18/PR-143 so that the carrier leakage level of step 1 through 4 are less than 2 IRE.
(See above illustration)

PR-143(-12) BOARD -COMPONENT SIDE-


RV36 (VCC ADJ)
CN1
RV35 (G-R)
FL2
RV8 (G PA GAIN)
TP12
E1
RV13 (G γ ADJ)
RV34 (R-G)
RV14 (G γ BAL)
RV10 (G BLK LEVEL)
FL1
DL2
TP8
TP9
TP10
TP11
TP6
RV5 (R γ ADJ)
RV33 (B-G)
RV1 (R PA GAIN)
FL3
RV4 (R VA GAIN)
RV6 (R γ BAL)
DL1
TP2
TP3
TP18
TP4
TP17
TP5
RV32 (G-B)
RV16 (B PA GAIN)
RV3 (R BLK LEVEL)
RV20 (B γ ADJ)
RV21 (B γ BAL)
RV26 (R BLK SET)
RV18 (B BLK LEVEL)
DL3
RV19 (B VA GAIN)
TP16
ON↔OFF
S1
TP15
TP14
RV29 (G WHITE CLIP)
RV28 (PRE KNEE)
RV22 (B PED)
RV25 (G BLK SET)
RV24 (B BLK SET)
RV27 (WHITE LIMIT)
RV7 (R PED)
RV15 (G PED)
RV30 (R WHITE CLIP)
RV31 (B WHITE CLIP)

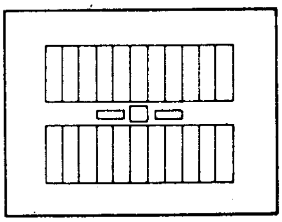
3-5-19. White Clip Adjustment

Object : Grayscale chart
Equipment : Waveform monitor
To be extended : PR-143 board
Preparation :

- Set the OUTPUT switch on the side of the camera to CAM.
- Set the GAIN switch on the side of the camera to 18 dB.

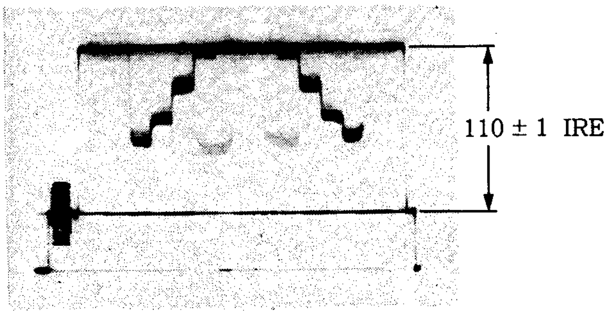
Adjustment :

1. Adjust the zoom control so that the Grayscale chart frame matches the underscanned picture frame on the screen.



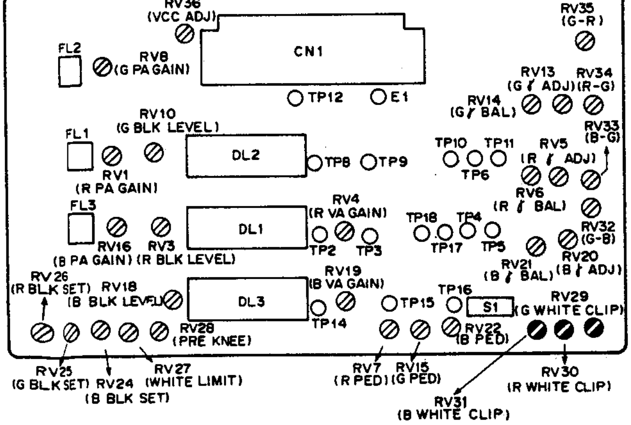
Monitor Screen

2. Open the lens iris fully.
3. Adjust ⊘RV30, ⊘RV31/PR-143 board several times so that the carrier leakage of the white peak level is minimized.
4. Adjust ⊘RV29/PR-143 board so that the white peak level is 110 ± 1 IRE on the waveform monitor.



5. Repeat the steps 3 and 4 several times.

PR-143(-12) BOARD -COMPONENT SIDE-


RV36
(VCC ADJ)
CN1
RV35
(G-R)
FL2
RV8
(G PA GAIN)
TP12
E1
RV13
(G γ ADJ)
RV34
(R-G)
RV14
(G γ BAL)
RV10
(G BLK LEVEL)
FL1
DL2
TP8
TP9
TP10
TP11
TP6
RV5
(R γ ADJ)
RV33
(B-G)
RV1
(R PA GAIN)
FL3
RV4
(R VA GAIN)
DL1
TP18
TP4
TP17
TP5
RV6
(R γ BAL)
RV32
(G-B)
RV16
(B PA GAIN)
RV3
(R BLK LEVEL)
TP2
TP3
RV21
(B γ BAL)
RV20
(B γ ADJ)
RV26
(R BLK SET)
RV18
(B BLK LEVEL)
DL3
RV19
(B VA GAIN)
TP14
TP15
TP16
S1
RV29
(G WHITE CLIP)
RV28
(PRE KNEE)
RV22
(B PED)
RV25
(G BLK SET)
RV24
(B BLK SET)
RV27
(WHITE LIMIT)
RV7
(R PED)
RV15
(G PED)
RV30
(R WHITE CLIP)
RV31
(B WHITE CLIP)

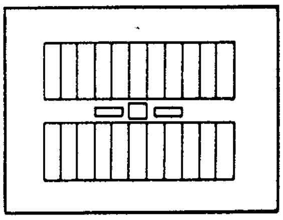
Note : After adjustment is completed, set the GAIN switch on the side of the camera to 0dB.

3-6. IMAGE ENHANCER SYSTEM ADJUSTMENT (IE-28 board)

3-6-1. HF Offset Adjustment

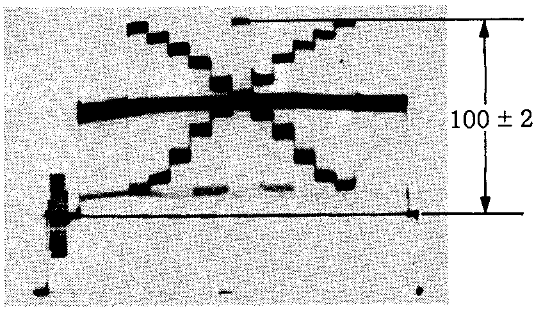
Object : Grayscale chart
Equipment : Oscilloscope, Waveform monitor
To be extended : PR-143 board
Trigger : pin A5/extension board
Adjustment :

1. Adjust the zoom control of the lens so that the chart frame matches the underscanned picture frame on the screen.

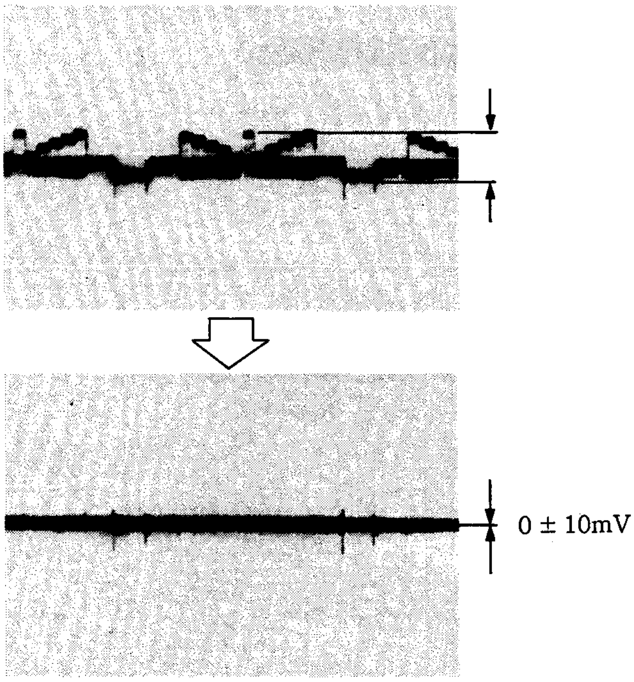


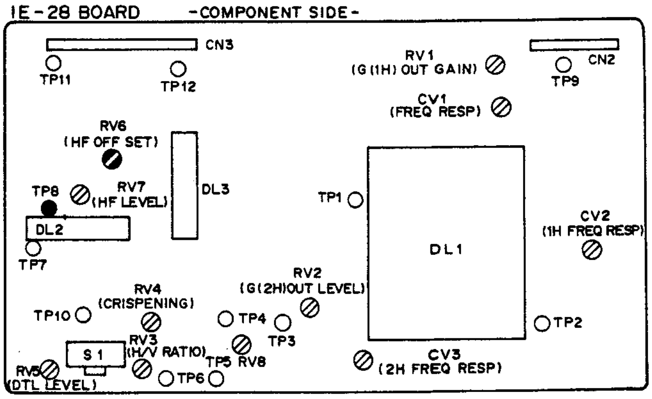
Monitor Screen

2. Adjust the iris control so that the video level at VIDEO OUT connector (camera side panel) is 100 ± 2 IRE.



3. Adjust ⊘RV6/IE-26 board so that the DC offset level at TP8 (GND : E1) /IE-28 board is 0 ± 10 mV.

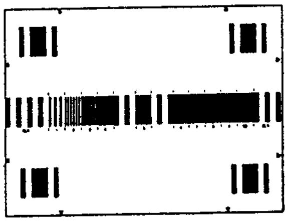



IE-28 BOARD
-COMPONENT SIDE-
CN3
TP11
TP12
RV1
(G (1H) OUT GAIN)
CN2
TP9
CV1
(FREQ RESP)
RV6
(HF OFF SET)
TP8
RV7
(HF LEVEL)
DL3
TP1
DL2
TP7
DL1
CV2
(1H FREQ RESP)
RV2
(G(2H)OUT LEVEL)
RV4
(CRISPENING)
TP10
TP4
TP3
TP2
S 1
RV3
(H/V RATIO)
TP5
RV8
CV3
(2H FREQ RESP)
RV5
(DTL LEVEL)
TP6

3-6-2. Aperture Adjustment

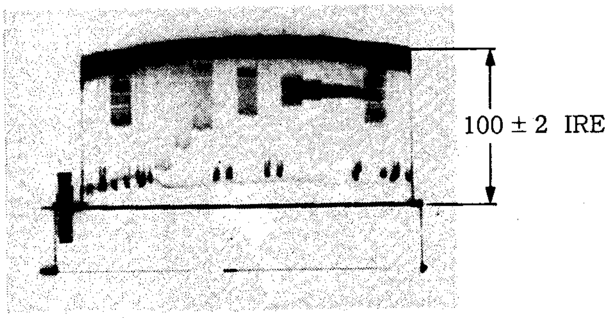
Object : Burst chart
Equipment : Waveform monitor
To be extended : PR-143 board
Preparation : DTL switch (S1) /IE-28→OFF
Adjustment :

1. Adjust the zoom control of the lens so that the chart frame matches the underscanned picture frame on the screen.

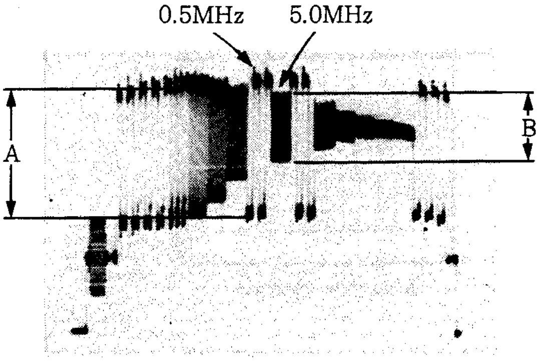


Monitor Screen

2. Adjust the iris control so that the video level at VIDEO OUT connector (camera side panel) is 100 ± 2 IRE.

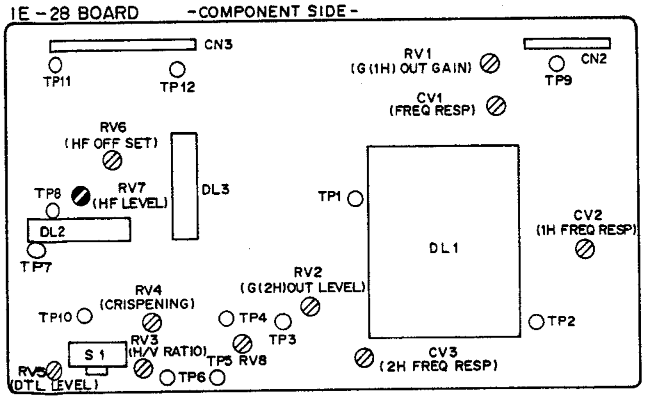


3. Adjust ⊘RV7/IE-28 board so that the ratio of 5MHz level "B" at VIDEO OUT connector (camera side panel) to 0.5MHz level "A" is 52 ± 5 %.
(To get the following picture, set the LINE SEL switch on the waveform monitor to "15 LINES". And adjust the VAR control of LINE SEL.)


0.5MHz
5.0MHz
A
B

B = A × (52 ± 5 %)

IE-28 BOARD -COMPONENT SIDE-


CN3
TP11
TP12
RV1
(G (1H) OUT GAIN)
CN2
TP9
CV1
(FREQ RESP)
RV6
(HF OFF SET)
TP8
RV7
(HF LEVEL)
DL3
DL2
TP7
TP1
DL1
CV2
(1H FREQ RESP)
RV2
(G(2H)OUT LEVEL)
RV4
(CRISPENING)
TP10
TP4
TP3
TP2
S 1
RV3
(H/V RATIO)
TP5
RV8
RV5
(DTL LEVEL)
TP6
CV3
(2H FREQ RESP)

3-6-3. CRISPENING Adjustment

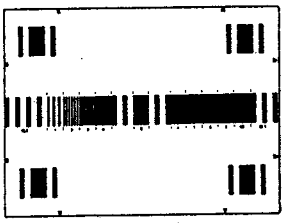
Note : Perform the adjustment only when replacing a ⊘ RV4 potentiometer on the IE-28 board.

Object : Burst chart
Equipment : Oscilloscope, Waveform monitor
To be extended : PR-143 board
Test point : TP10/IE-28 board
(GND : pin A1/extension board)
Trigger : pin A5/extension board
Preparation :

- ⊘ RV3/IE-28 board → fully clockwise ↻
- Set the GAIN switch on the side of the camera to 0 dB.

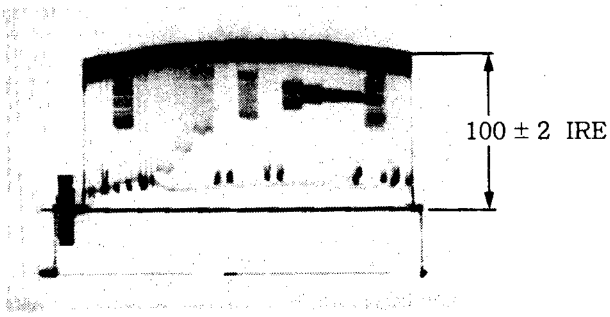
Adjustment point : ⊘ RV4/IE-28 board
Adjustment :

1. Adjust the zoom control of the lens so that the chart frame matches the underscanned picture frame on the screen.

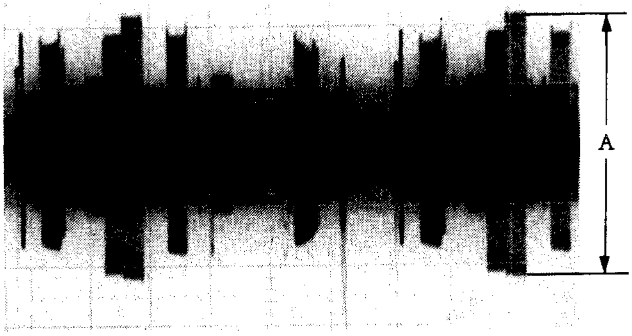


Monitor Screen

2. Adjust the iris control so that the video level at VIDEO OUT connector (camera side panel) is 100 ± 2 IRE.

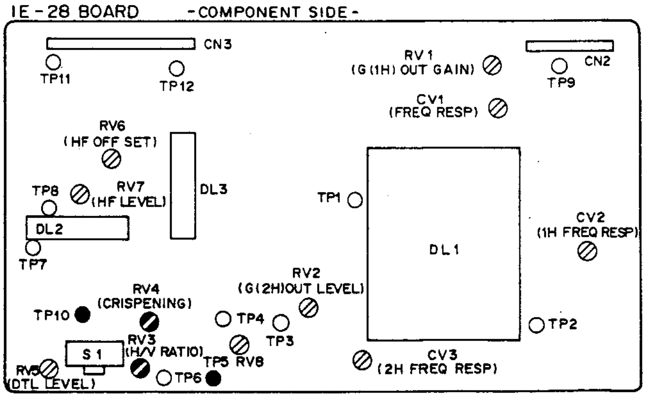


3. ⊘RV4/IE-28 board → fully counterclockwise ↺
4. Observe TP10/IE-28 board (GND : pin A1 /extension board) and measure the value of level "A".



5. Adjust ⊘RV4/IE-28 board so that the video level at TP10/IE-28 board (GND : pin A1/extension board) is 80 ± 5 % of "A" measured in procedure 4.

IE-28 BOARD -COMPONENT SIDE-


CN3
TP11
TP12
RV1
(G(1H) OUT GAIN)
CN2
TP9
CV1
(FREQ RESP)
RV6
(HF OFF SET)
TP8
RV7
(HF LEVEL)
DL3
TP1
DL2
TP7
DL1
CV2
(1H FREQ RESP)
RV2
(G(2H)OUT LEVEL)
RV4
(CRISPENING)
TP10
TP4
TP3
TP2
S1
RV3
(H/V RATIO)
TP5
RV8
CV3
(2H FREQ RESP)
RV5
(DTL LEVEL)
TP6

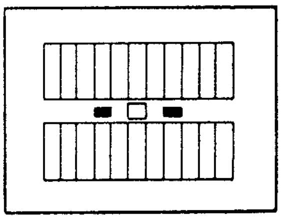
3-6-4. H. V. RATIO Adjustment

Object : Grayscale chart
Equipment : B/W monitor, waveform monitor
To be extended : PR-143 board
Preparation :

- Set the S1 (DTL) switch on the IE-28 board to ON.
- Set the WHITE BAL switch on the side of the camera to PRESET.

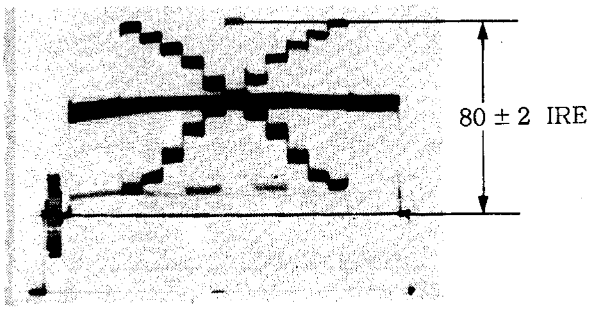
Adjustment point : ⊘ RV3/IE-28 board
Adjustment :

1. Adjust the zoom control so that the Grayscale chart frame matches the underscanned picture frame on the screen.

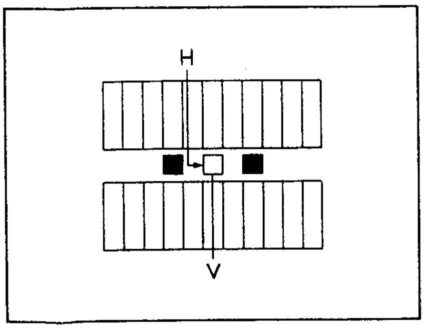


Monitor Screen

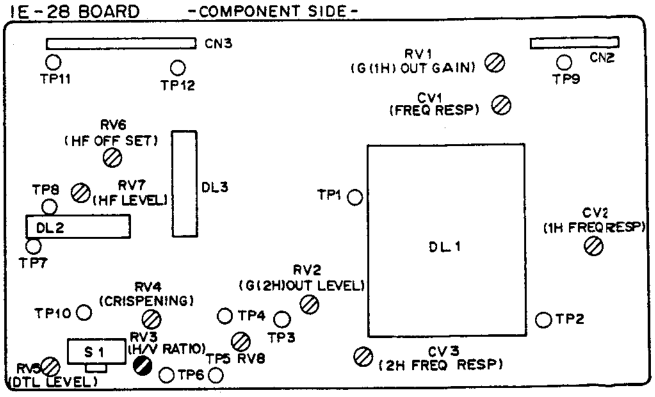
2. Adjust the iris control so that the video level is 80 ± 2 IRE on the waveform monitor.



3. Observing the indicated point on the B/W monitor (See the figure below), adjust ⊘RV3/IE-28 board so that the DTL H and V are balanced.



IE-28 BOARD -COMPONENT SIDE-


CN3
TP11
TP12
RV1
(G(1H) OUT GAIN)
CN2
TP9
CV1
(FREQ RESP)
RV6
(HF OFF SET)
TP8
RV7
(HF LEVEL)
DL3
TP1
DL2
CV2
(1H FREQ RESP)
DL 1
TP7
RV2
(G(2H)OUT LEVEL)
RV4
(CRISPENING)
TP10
TP4
TP3
TP2
S 1
RV3
(H/V RATIO)
TP5 RV8
CV3
(2H FREQ RESP)
RV5
(DTL LEVEL)
TP6

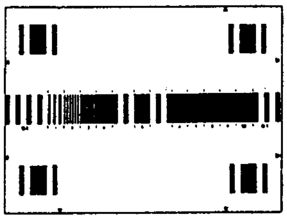
3-6-5. Detail Level Adjustment

Object : Burst chart
Equipment : Waveform monitor
To be extended : PR-143 board
Preparation :

- Set the WHITE BAL switch on the side of the camera to PRESET.
- DTL switch (S1) /IE-28 → ON

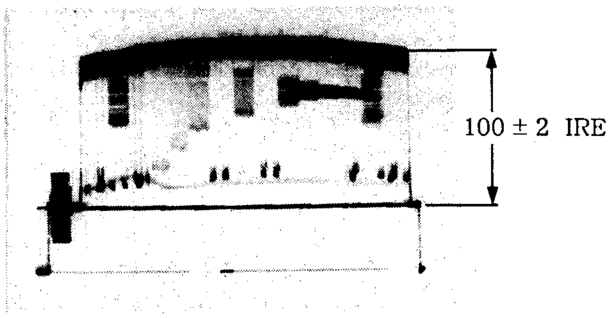
Adjustment point : ⊘ RV5/IE-28 board
Adjustment :

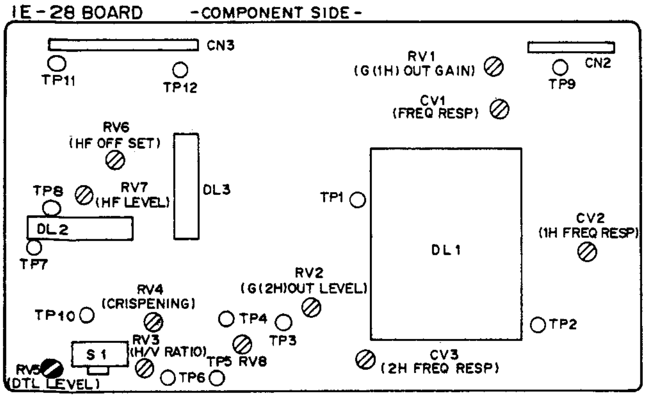
1. Adjust the zoom control of the lens so that the chart frame matches the underscanned picture frame on the screen.



Monitor Screen

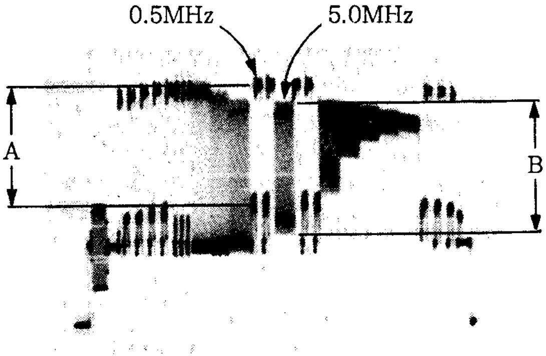
2. Adjust the iris control so that the video level at VIDEO OUT connector (camera side panel) is 100 ± 2 IRE.




IE-28 BOARD -COMPONENT SIDE-
CN3
TP11
TP12
RV1 (G(1H) OUT GAIN)
CN2
TP9
CV1 (FREQ RESP)
RV6 (HF OFF SET)
TP8
RV7 (HF LEVEL)
DL3
TP1
DL2
TP7
CV2 (1H FREQ RESP)
DL1
RV2 (G(2H)OUT LEVEL)
RV4 (CRISPENING)
TP10
TP4
TP3
TP2
RV3 (H/V RATIO)
S1
TP5
RV8
CV3 (2H FREQ RESP)
RV5 (DTL LEVEL)
TP6

3. Adjust ⊘RV5/IE-28 board so that the 5MHz level "B" at VIDEO OUT connector (camera side panel) is 105 ± 5 % of 0.5MHz level "A".

(To get the following picture , set the LINE SEL switch on the waveform monitor to "15 LINES ". And adjust the VAR control of LINE SEL.)



B = A × (105 ± 5 %)

4. Repeat the 3-6-4. H.V.RATIO Adjustment to the 3-6-5. Detail Level Adjustment several times.

3-7. AUTO SYSTEM (AT-59 board)

3-7-1. LOW LIGHT Adjustment

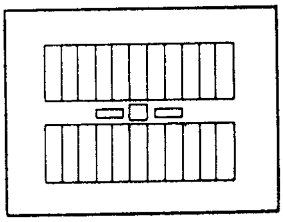
Object : Grayscale chart
Equipment : Waveform monitor
Preparation :

- Set the WHITE BAL switch on the side of the camera to PRESET.
- Press the DISP CHG button several times until the following (see illustration below) display appears on the viewfinder screen.

L.L.IND : ON
BATT : 12.5V
WHITE : PRESET
BLACK : AUTO
GAIN : 0DB
SHUTTER : OFF

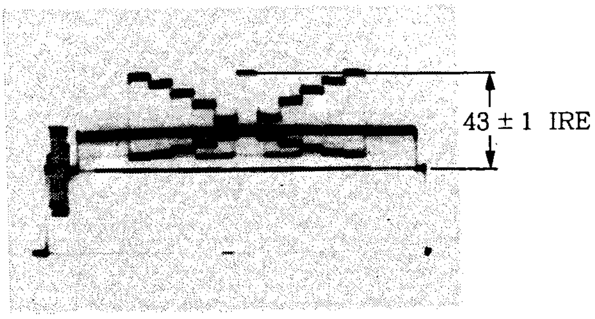
Adjustment point : ⊘ RV1/AT-59 board
Adjustment :

1. Adjust the zoom control so that the Grayscale chart frame matches the underscanned picture frame on the screen.

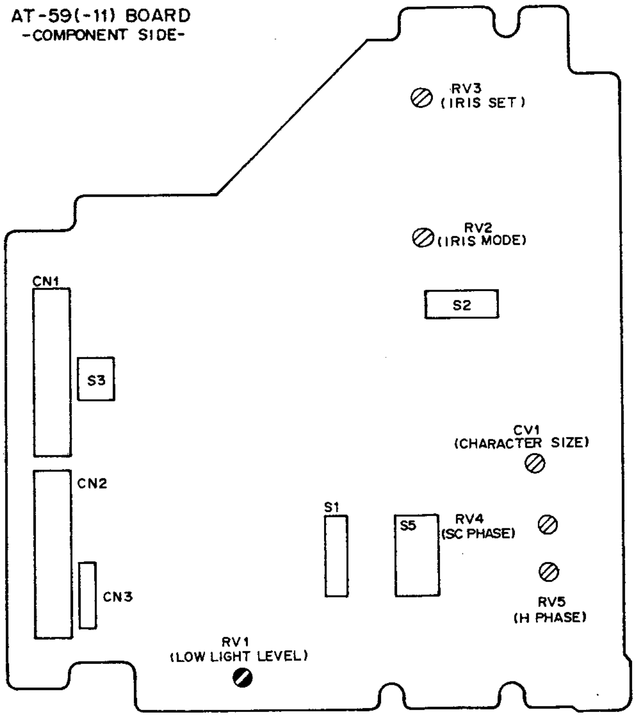


Monitor Screen

2. Adjust the lens iris control so that the white level of the video signal is 43 ± 1 IRE.



3. Rotate ⊘RV1/AT-59 board slowly counterclockwise from the rightmost position until the point where the "LOW LIGHT" indication and the "LOW LIGHT" lamp light up on the viewfinder screen.
4. Open the iris control gradually and confirm that the white level of the video signal is 47 IRE when the "LOW LIGHT " indication disappears. If the specification is not met, repeat procedure 3.


AT-59(-11) BOARD
-COMPONENT SIDE-
RV3 (IRIS SET)
RV2 (IRIS MODE)
S2
CN1
S3
CV1 (CHARACTER SIZE)
CN2
S1
S5
RV4 (SC PHASE)
CN3
RV5 (H PHASE)
RV1 (LOW LIGHT LEVEL)

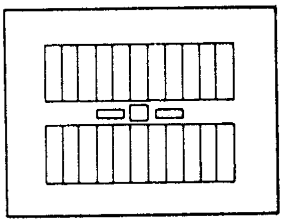
3-7-2. Auto Iris Adjustment

Object : Grayscale chart
Equipment : Waveform monitor
Preparation :

- Set the WHITE BAL switch on the side of the camera to PRESET.
- Set the iris control to AUTO
- Rotate ⊘RV2(IRIS MODE)/AT-59 board fully counter-clockwise ↺.

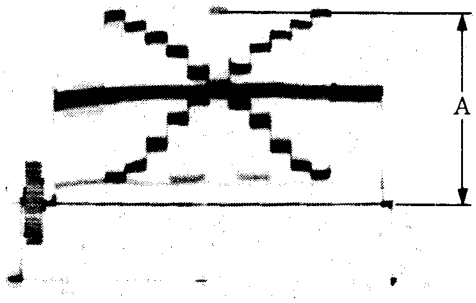
Adjustment :

1. Adjust the zoom control so that the Grayscale chart frame matches the underscanned picture frame on the screen.

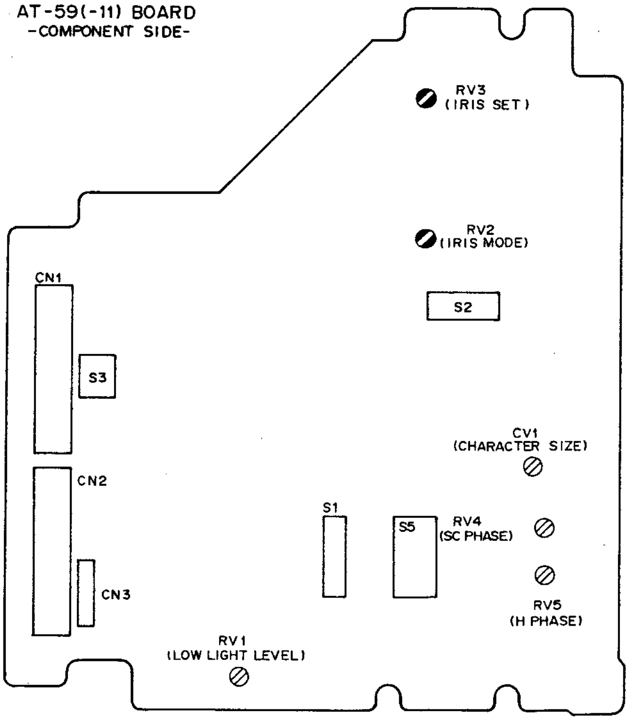


Monitor Screen

2. Adjust ⊘RV3 (IRIS SET) / AT-59 board so that the white peak level "A" is 100 ± 2 IRE.
3. Adjust ⊘RV2 (IRIS MODE) / AT-59 board so that the white peak level "A" is 106 ± 2 IRE.
4. Adjust ⊘RV3 (IRIS SET) / AT-59 board so that the white peak level "A" is 100 ± 2 IRE.



AT-59(-11) BOARD
-COMPONENT SIDE-

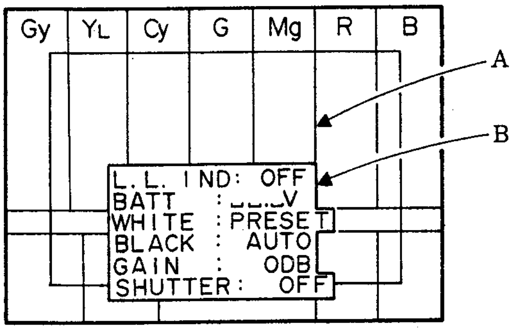

RV3
(IRIS SET)
RV2
(IRIS MODE)
S2
CN1
S3
CV1
(CHARACTER SIZE)
CN2
S1
S5
RV4
(SC PHASE)
CN3
RV5
(H PHASE)
RV1
(LOW LIGHT LEVEL)

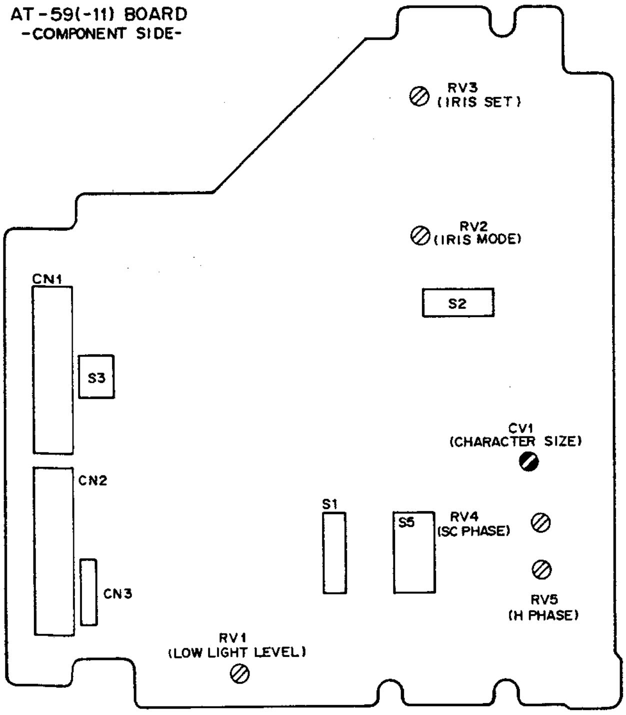
3-7-3. Character Size Adjustment

Test point : Viewfinder screen
Preparation :
- OUTPUT switch (camera side panel) → BARS
- DISP CHG switch (camera side panel) → ON

Adjustment point : ⊘CV1/AT-59 board
Adjustment :
Adjust ⊘ CV1/AT-59 board so that the "B" line on white block for character display matches the "A" line on color bar screen.

Viewfinder Screen

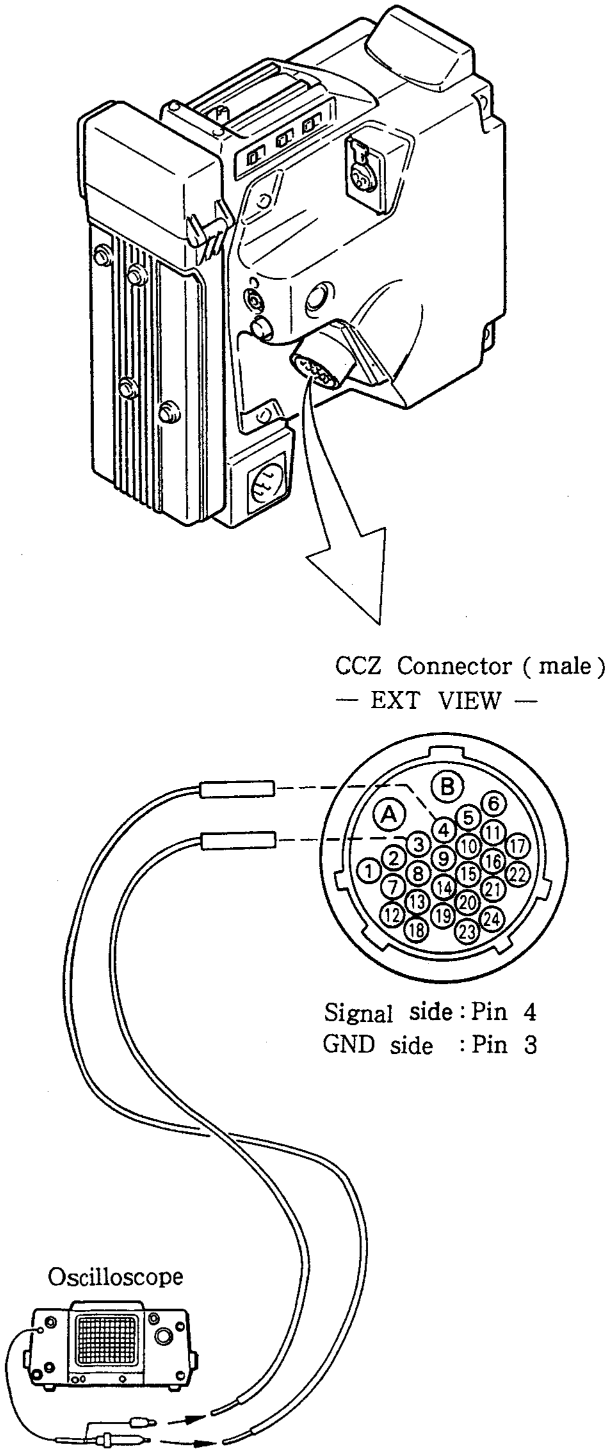

Gy
YL
Cy
G
Mg
R
B
A
B
L.L. IND: OFF
BATT : ⌴⌴.⌴V
WHITE : PRESET
BLACK : AUTO
GAIN : 0DB
SHUTTER : OFF


AT-59(-11) BOARD
-COMPONENT SIDE-
RV3
(IRIS SET)
RV2
(IRIS MODE)
S2
CN1
S3
CV1
(CHARACTER SIZE)
CN2
S1
S5
RV4
(SC PHASE)
CN3
RV5
(H PHASE)
RV1
(LOW LIGHT LEVEL)

3-8. INTERAFACE SYSTEM
(IF-313 BOARD/CA-537)

3-8-1. Y OUT Level Adjustment

Connection :


CCZ Connector (male)
— EXT VIEW —
A
B
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Signal side : Pin 4
GND side : Pin 3
Oscilloscope

Equipment : Oscilloscope

Preparation :

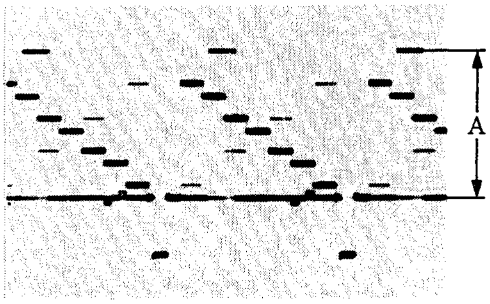
- OUTPUT switch/camera side panel → BARS
- S1/IF-313 board → center position

Adjustment point : ⊘ RV2/IF-313 board

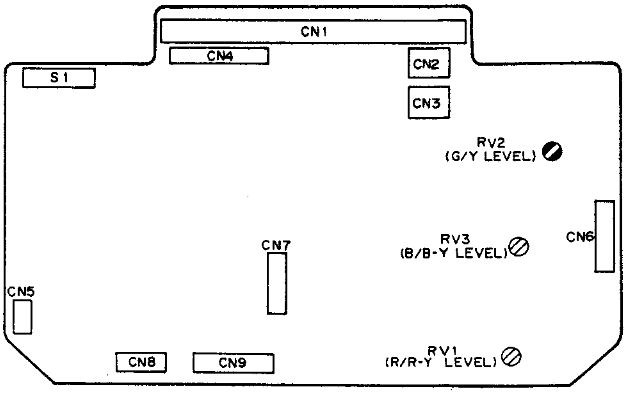
Specification :

A = 1428 ± 20mV

A = 714 ± 10mV (75 Ω termination)

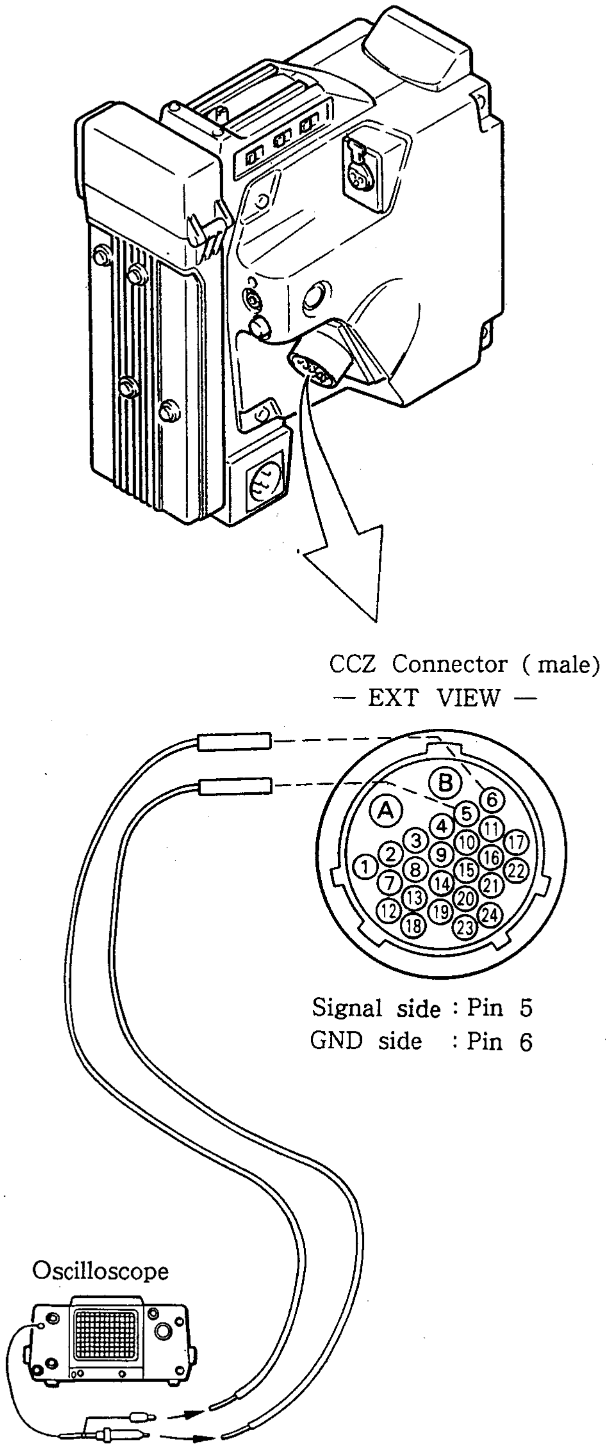


IF-313(-11) BOARD -COMPONENT SIDE-


CN1
CN4
S1
CN2
CN3
RV2 (G/Y LEVEL)
CN7
RV3 (B/B-Y LEVEL)
CN6
CN5
CN8
CN9
RV1 (R/R-Y LEVEL)

3-8-2. R-Y OUT Level Adjustment

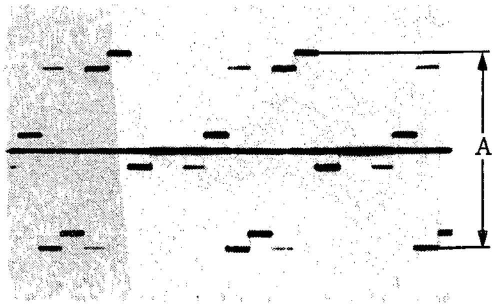
Connection :

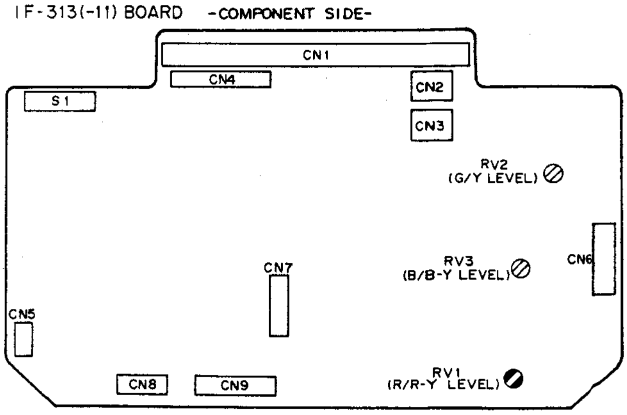

CCZ Connector (male)
— EXT VIEW —
A
B
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Signal side : Pin 5
GND side : Pin 6
Oscilloscope

Equipment : Oscilloscope
Preparation :

- OUTPUT switch/camera side panel → BARS
- S1/IF-313 board → center position

Adjustment point : ⊘RV1/IF-313 board
Specification :
A = 1400 ± 20mV
A = 700 ± 10mV (75 Ω termination)




IF-313(-11) BOARD -COMPONENT SIDE-
CN1
CN4
CN2
CN3
S1
RV2
(G/Y LEVEL)
RV3
(B/B-Y LEVEL)
CN6
CN7
CN5
CN8
CN9
RV1
(R/R-Y LEVEL)

3-8-3. B-Y OUT Level Adjustment

Connection :

Equipment : Oscilloscope

Preparation :

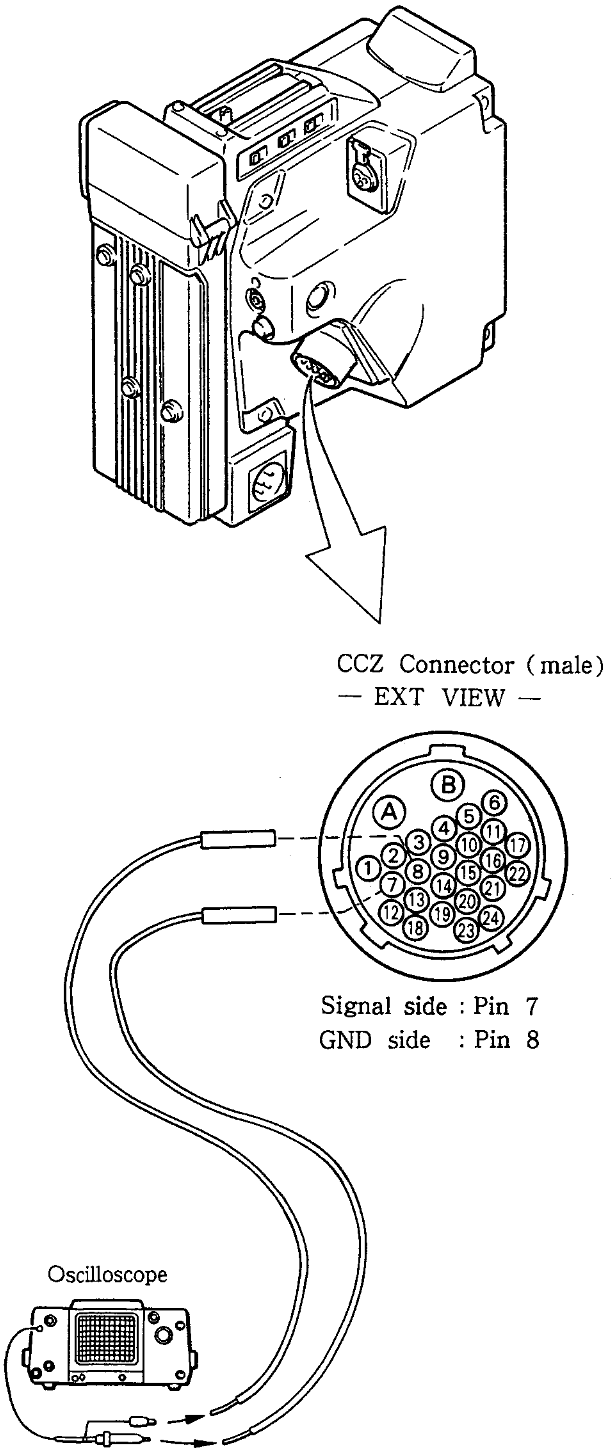
- OUTPUT switch/camera side panel → BARS
- S1/IF-313 board → center position

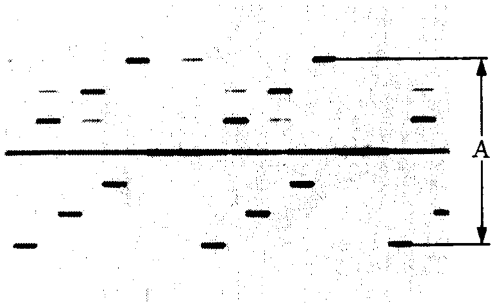
Adjustment point : ⊘RV3/IF-313 board

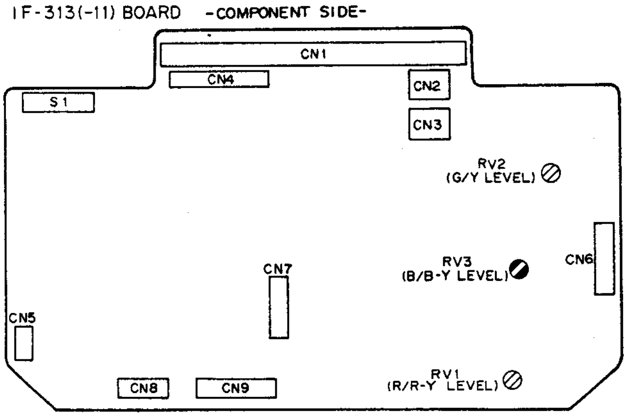
Specification :

A = 1400 ± 20mV

A = 700 ± 10mV (75 Ω termination)


CCZ Connector (male)
— EXT VIEW —
A
B
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Signal side : Pin 7
GND side : Pin 8
Oscilloscope

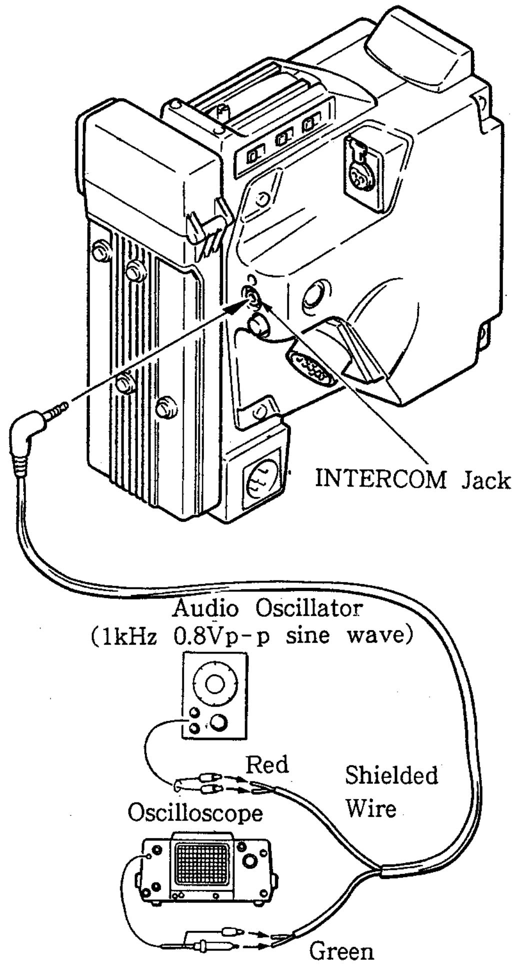



IF-313(-11) BOARD -COMPONENT SIDE-
CN1
CN4
CN2
CN3
S1
RV2 (G/Y LEVEL)
RV3 (B/B-Y LEVEL)
CN6
CN7
CN5
CN8
CN9
RV1 (R/R-Y LEVEL)

3-9. INTERCOM SYSTEM (CA-537/AU-141 BOARD)

3-9-1. SIDE TONE Adjustment

Equipment/Connection :

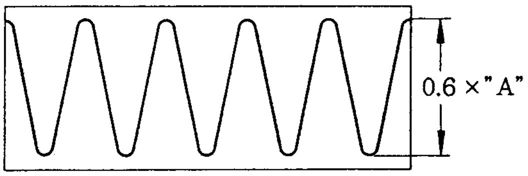

INTERCOM Jack
Audio Oscillator
(1kHz 0.8Vp-p sine wave)
Red
Shielded
Wire
Oscilloscope
Green

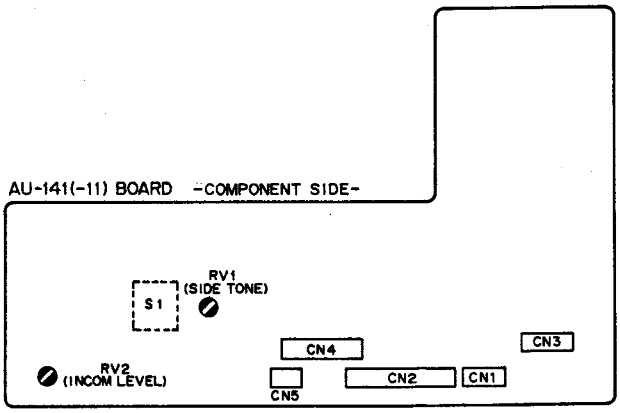
Preparation : Rotate ⊘RV2 on the AU-141 board fully clockwisee

Adjustment point : ⊘RV1/AU-141 board

Adjustment :

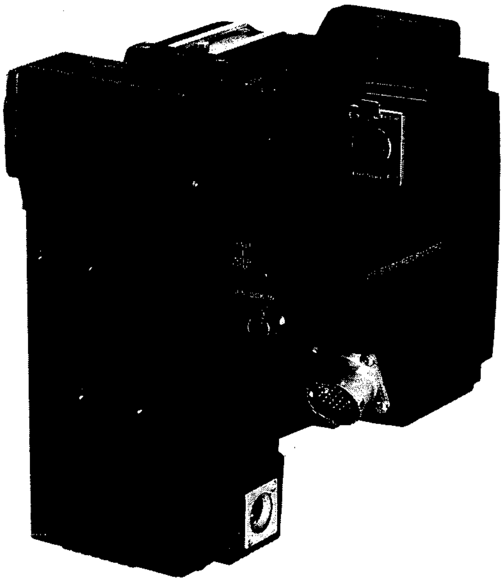
1. Measure the output level "A" when turning ⊘RV1 fully counterclockwise.
2. Adjust ⊘RV1 clockwise so that 60% of output level "A" is indicated.




AU-141(-11) BOARD -COMPONENT SIDE-
RV1
(SIDE TONE)
S1
CN4
CN3
RV2
(INCOM LEVEL)
CN5
CN2
CN1

CA-537

CAMERA ADAPTOR



SPECIFICATIONS

Inputs/Outputs	VTR/CCU/CMA connector: Sony Z-type, 26-pin DC IN: XLR-type, 4-pin MIC IN: XLR-type, 3-pin GEN LOCK IN: BNC-type EARPHONE: mini jack INTERCOM: mini intercom jack
Power requirements	12 V DC
Power consumption	1.7 W
Operating temperature	–10°C to +45°C (14°F to 113°F)
Storage temperature	–20°C to +60°C (–4°F to +140°F)
Weight	1.3 kg (2 lb 14 oz)
Dimensions	118 × 205 × 187 mm ($4\frac{3}{4} \times 8\frac{1}{3} \times 7\frac{3}{8}$ inches)
Supplied accessories	Screws for attaching the CA-537/537P M4 × 6 (2) M4 × 12 (2) Operating instructions (1)

Design and specifications are subject to change without notice.

SONY®

SERVICE MANUAL

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2. SERVICE INFORMATION

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SECTION 1
GENERAL DESCRIPTION

1-1. PRECAUTIONS

The CA-537/537P is a camera adaptor designed to be used with the Sony DXC-537/537P series color video camera. This instruction manual is for both the CA-537 and the CA-537P.
The operating instructions for both camera adaptors are the same, but their signal systems and their color video cameras to be connected are different.

	Signal system	Color video camera
CA-537	EIA standards, NTSC color system	DXC-537 series camera
CA-537P	CCIR standards, PAL color system	DXC-537P series camera

Please refer to the camera's instruction manual for details of the camera adaptor's operation.

Operation

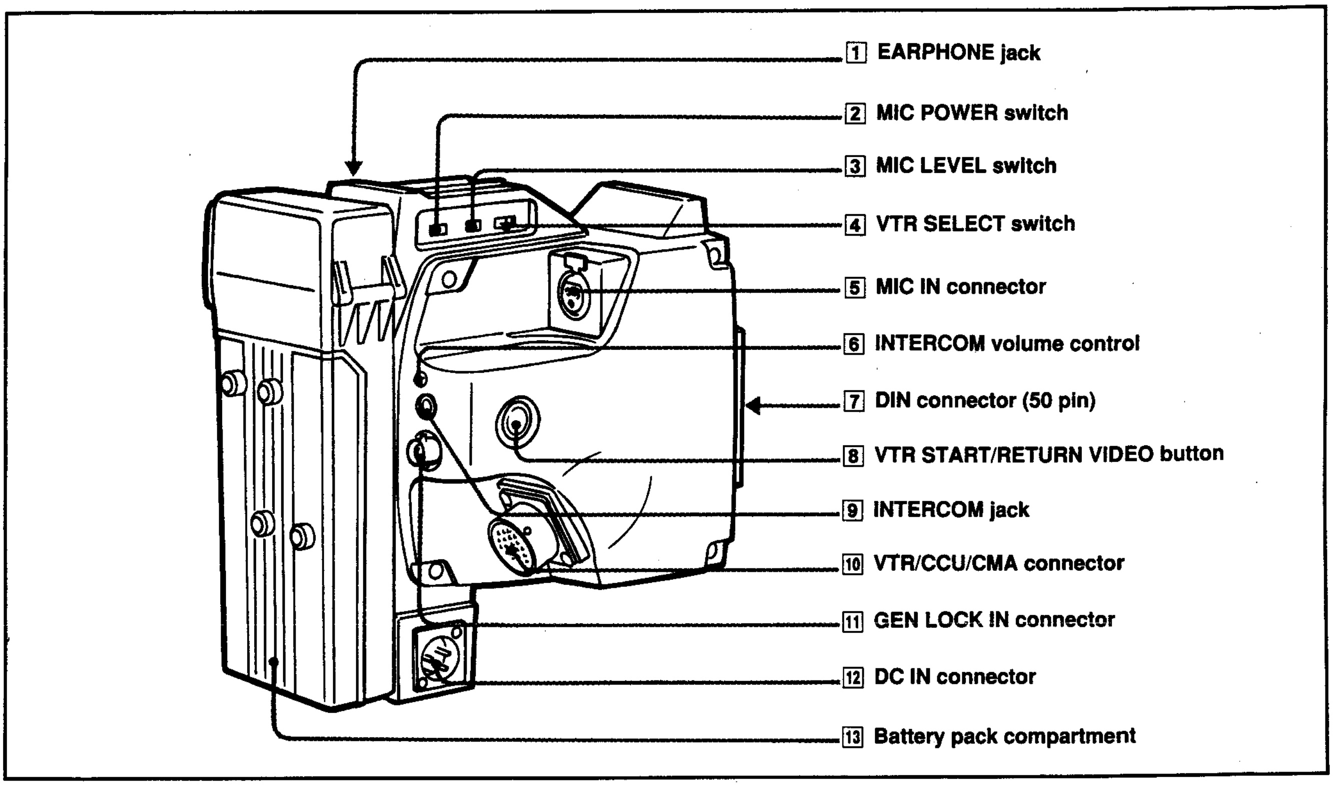
- Do not use the unit in a place subject to excessive dust, mechanical vibration or shock.
- Allow adequate air circulation to prevent internal heat build-up.
- Do not expose the unit to extremely high temperature and humidity.

Cleaning

Clean the cabinet, panel and controls with a dry soft cloth, or soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzine, which might damage the finish.

If you have any questions about this unit, contact your authorized Sony dealer.

1-2. LOCATION AND FUNCTION OF PARTS


1 EARPHONE jack
2 MIC POWER switch
3 MIC LEVEL switch
4 VTR SELECT switch
5 MIC IN connector
6 INTERCOM volume control
7 DIN connector (50 pin)
8 VTR START/RETURN VIDEO button
9 INTERCOM jack
10 VTR/CCU/CMA connector
11 GEN LOCK IN connector
12 DC IN connector
13 Battery pack compartment

1 EARPHONE jack (mini jack)

Connect an earphone to monitor the playback or recording sound from the VTR.

Note

With some types of VTR, you may not be able to monitor the sound. For details, refer to the camera's operating instructions.

2 MIC POWER switch

Turns on or off the microphone connected to the MIC IN connector.

ON: When you use the microphone of a phantom powering system, set the switch to this position. The power is supplied to the microphone from the MIC IN connector.

OFF: When you use a microphone other than that of a phantom powering system, set the switch to this position.

3 MIC LEVEL switch

Set this switch according to the sensitivity of the MIC IN connector on the VTR and CCU. If the sensitivity is high, set it to a minimum of –20dB; if it is low, set it to a maximum of –60dB.

4 VTR SELECT switch

Selects the VTR depending on the type of the connected VTR. For details, refer to the camera's operating instructions.

1: For a Sony BVU-150/150P, BVW-35/35P or VO-6800/6800PS VTR, or a CCU-M7/M7P/M3/M3P camera control unit.

2: For a Panasonic VHS format AG-6400 VTR.

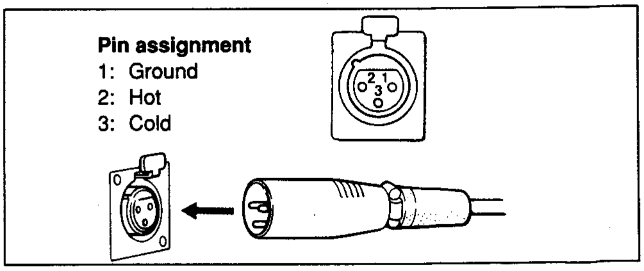
3: For a Sony VO-8800/8800PS VTR.
For a Panasonic S-VHS format AG-7400 VTR.

Caution

Be sure to set the VTR SELECT switch to the correct position for the VTR used. If it is not, the VTR might not operate properly.

5 MIC IN (microphone input) connector (XLR 3-pin)

You can connect a microphone here.



Pin assignment
1: Ground
2: Hot
3: Cold

6 INTERCOM volume control

Controls the volume level through the DR-100 intercom headset.

7 DIN connector (50-pin)

Connect to the 50-pin connector on the camera head.

8 VTR START/RETURN VIDEO button

When a portable VTR or CCU-M7/M7P/M3/M3P camera control unit is connected to the VTR/CCU/CMA connector, this button functions.

When the VTR is connected: Starts and stops the recording. Press the button to start recording, and press again to stop.

When the CCU-M7/M7P/M3/M3P camera control unit is connected: Monitors the return video picture on the viewfinder. Keep the button pressed to monitor the return video picture, and release it to monitor the camera picture.

9 INTERCOM jack (mini jack)

Connect a DR-100 intercom headset, here. The DR-100 enables the communication between the camera operator and the person operating the connected CCU-M7/M7P/M3/M3P camera control unit or video switcher.

10 VTR/CCU/CMA connector (26-pin)

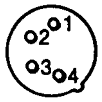
Connect a portable VTR, CCU-M7/M7P/M3/M3P camera control unit or CMA-8A/8ACE camera adaptor. All video, audio, and control signals as well as power are supplied from/to the video camera via this connector.

11 GEN LOCK IN (gen-lock input) connector (BNC connector)

When you synchronize two or more cameras without using a camera control unit, connect the gen-lock sync signal (VBS or BS) for synchronization here.

12 DC IN (DC power input) connector (XLR 4-pin)

This connector is equipped for supplying power from an external DC power supply (12 VDC).



Pin assignment
1: GND
2: NC
3: NC
4: +12 VDC

Note

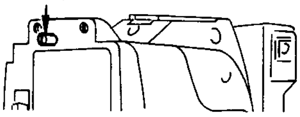
When DC current is supplied to this connector, power from the battery pack and from the VTR/CCU/CMA connector is automatically cut off.

13 Battery pack compartment

When using the power source from a battery pack, put an NP-1B or NP-1A battery pack into this compartment.

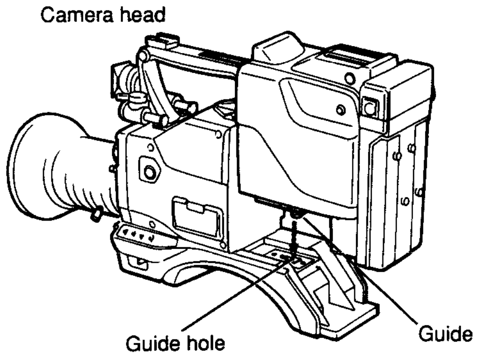
1-3. ATTACHING/DETACHING THE CA-537/537P

This section tells you how to attach the camera adaptor to the DXC-537/537P color video camera and how to take it off again. The CA-537/537P has a guide pin to ensure proper camera assembling. A camera which has no hole for the guide pin cannot be attached.

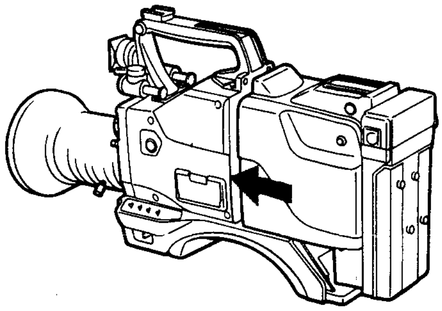


Attaching to the camera

1 Put the camera adaptor on the camera head with the guide in the guide hole.



2 Push the camera adaptor forward along the groove until its 50-pin connector locks into the DIN 50-pin connector on the camera.

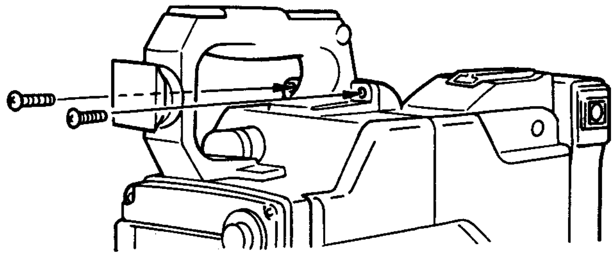


Detaching from the camera

To detach the camera adaptor, reverse the order of the instructions as shown below.

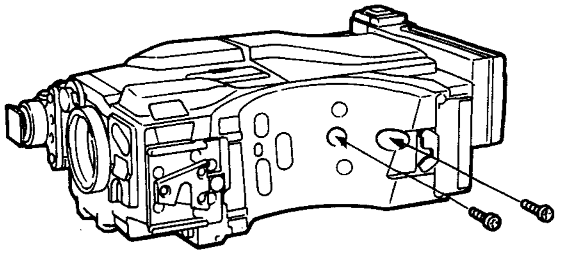
Attaching to the camera

3 Fix the camera adaptor to the camera with two screws at the connecting part.



Use the supplied screws
M4 × 12.

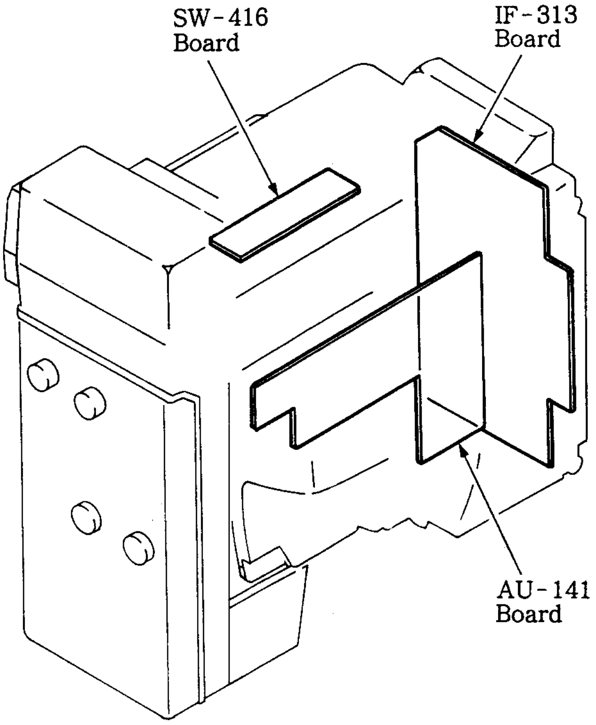
4 Tighten the two screws at the bottom of the shoulder pad on the camera.



Use the supplied screws
M4 × 6.

SECTION 2
SERVICE INFORMATION

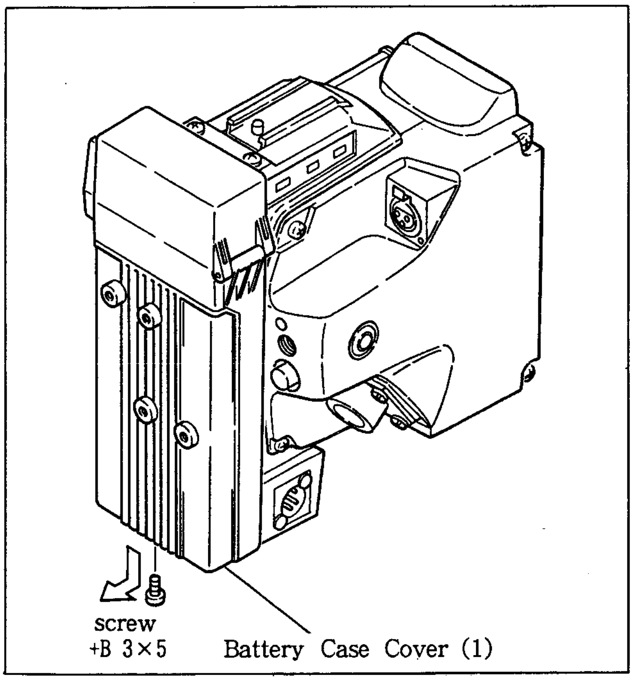
2-1. BOARD LAYOUT


SW-416
Board
IF-313
Board
AU-141
Board

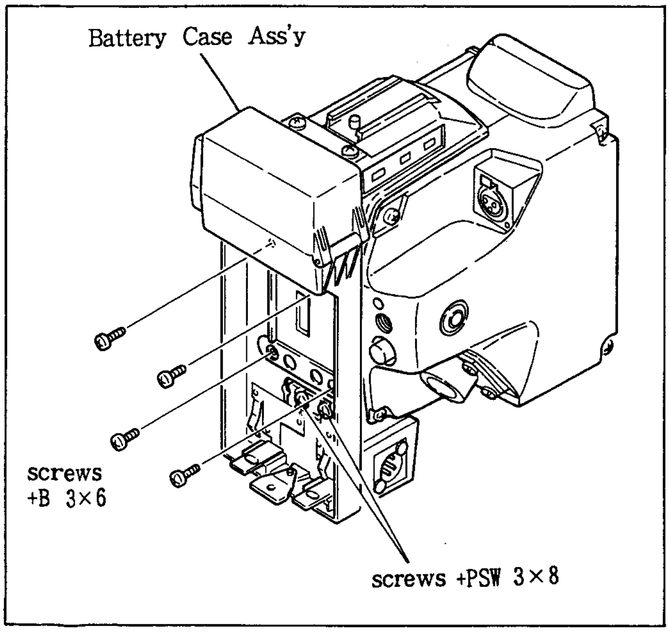
2-2. REMOVAL OF CABINET

2-2-1. Remove the Battery Case Ass'y

1. Remove the screw (+B 3×5) shown in the figure and remove the battrey case cover (1).

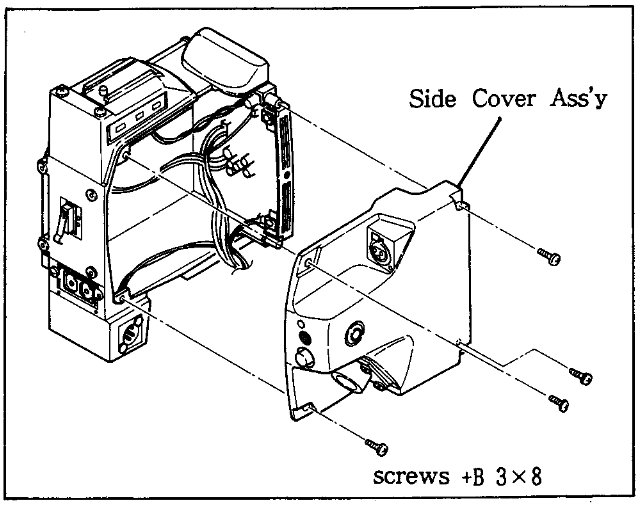

screw
+B 3×5
Battery Case Cover (1)

2. Remove the four screws (+B 3×6) and loosen the two screws (+PSW 3×8). Remove the battery case ass'y.


Battery Case Ass'y
screws
+B 3×6
screws +PSW 3×8

2-2-2. Remove the Side Cover Ass'y

1. Remove the four screws (+B 3×8) and remove the side cover ass'y.


Side Cover Ass'y
screws +B 3×8

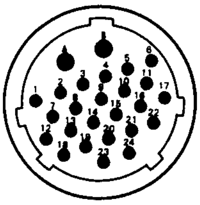
2-3. CONNECTORS AND CABLES

2-3-1. Connector Input/Output Signals

The main connector input/output signals are as follows :

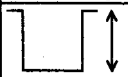
GENLOCK (BNC) : 1.0Vp-p, sync negative 75 Ω

VTR/CCU/CMA (26p, MALE)



(EXT VIEW)

No.	Signal	Specification
A	EXT DC(CCZ)IN(X)	10.5 to 17.0 Vdc (at3A)
B	EXT DC IN(G)	GND for POWER
1	EN VIDEO OUT(X)	VBS=1.0Vp-p±1dB(100%) Zo=75Ω±5% DC=0±100mV
2	EN/CF/CHROMA(G)	GND for ADP VIDEO
3	G/Y/Y OUT(G)	GND for Y
4	G/Y/Y OUT(X)	VS=1.0Vp-p±0.5dB(100%) Zo=75Ω±5% DC=0±200mV
5	R/R-Y/CHROMA OUT(X)	V=714/700/286mVp-p (BURST)±2% (75% COLOR BARS) Zo=75Ω±5% DC=0±200mV
6	R/R-Y/CHROMA OUT(G)	GND for R-Y
7	B/B-Y OUT(X)	V=714/700mVp-p±2% (75% COLOR BARS) Zo=75Ω±5% DC=0±200mV
8	B/B-Y OUT(G)	GND for B-Y
9	MIC OUT(X)	-60dBm/-20dBm Zo≦600Ω BALANCED
10	MIC OUT(Y)	
11	MIC OUT(G)	GND for MIC
12	VTR START/~~STOP~~ OUT TALLY OUT	START: 4.5±0.5V STOP: 0±0.5V Zo≦10kΩ

No.	Signal	Specification
13	BATT IND IN/S DATE	Zi=300Ω (Note. 1)
14	SENS(+)IN	+2.5V
15	REC ALARM IN	Zi≧20kΩ (Note. 2)
16	GENLOCK IN(G)	
17	INCOM IN/OUT(G)	GND for AUDIO MONITOR
18	RET/PB VIDEO IN(X)	Zi=75Ω±5% VS=1.0Vp-p±1%(100%) DC=0±200mV
19	RET/PB VIDEC IN(G)	GND for PB VIDEO
20	AUDIO MONITOR IN	Zi=750Ω(1kHz) SAVE: 4.5±0.5V STANDBY:9.0+1.0V -0.5V Zo≧10kΩ
21	GENLOCK IN(X)	Zi=75Ω±5% VBS=1.0Vp-p
22	CF/CHROMA OUT(X)	 5.0±1.0Vp-p(CF) 286mVp-p(BURST) (CHROMA) Zo=1kΩ±5%(CF) 75Ω(CHROMA) DC block
23	INCOM IN/OUT(X)	Zo=600Ω
24	INCOM IN/OUT(Y)	Zo=600Ω

• VTR Connected

	VTR 1 (B-CAM. U)	VTR 2 (VHS)	VTR 3 (S-VHS)
	AUTO	AUTO	AUTO
1	EN VIDEO OUT (X)	EN VIDEO OUT (X)	※1 Y OUT (X)
2	EN VIDEO／CF OUT (G)	EN VIDEO／CF OUT (G)	Y／CHROMA OUT (G)
3	Y OUT (G)	—	—
4	※2 Y OUT (X)	—	—
5	R-Y OUT (X)	—	—
6	R-Y OUT (G)	—	—
7	B-Y OUT (X)	—	—
8	B-Y OUT (G)	—	—
22	CF OUT (X)	CF OUT (X)	CHROMA OUT (X)

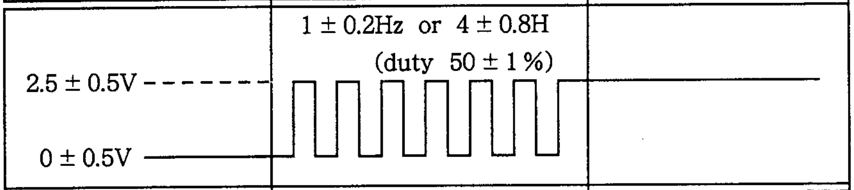
• CCU Connected

	CCU		
	AUTO		
※3	Y／C	GBR	Y, B-Y, R-Y
1	EN VIDEO OUT (X)	EN VIDEO OUT (X)	EN VIDEO OUT (X)
2	EN VIDEO／ CF OUT (G)	EN VIDEO／ CF OUT (G)	EN VIDEO／ CF OUT (G)
3	Y OUT (G)	G OUT (G)	Y OUT (G)
4	※1 Y OUT (X)	G OUT (X)	※2 Y OUT (X)
5	CHROMA OUT (X)	R OUT (X)	R-Y OUT (X)
6	CHROMA OUT (G)	R OUT (G)	R-Y OUT (G)
7	—	B OUT (X)	B-Y OUT (X)
8	—	B OUT (G)	B-Y OUT (G)

※1 Y／C
※2 CONPONENT
※3 CCU-M7／M7P Rear Paner SWITCH

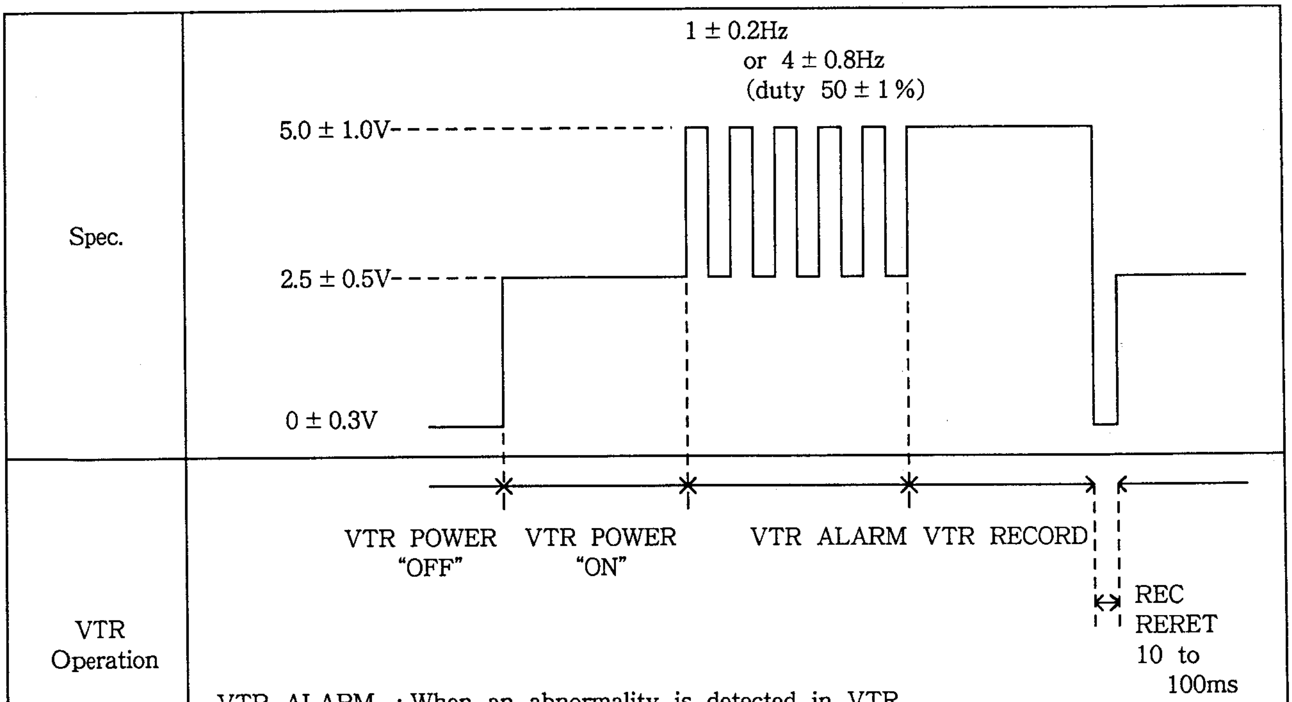
Note 1 : (BATT IND)

The VTR has a battery voltage detection circuit and warning signal output circuit. The circuit informs the camera of the battery voltage drop by sending the following signal to pin 13. The camera uses the LED on the viewfinder to warn the user of the condition.

VTR Battery voltage	more than 11.1Vdc	10.8 to 11.1Vdc	less than 10.8Vdc
Spec.	 2.5 ± 0.5V 0 ± 0.5V 1 ± 0.2Hz or 4 ± 0.8H (duty 50 ± 1%)		
LED in Viewfinder	Goes out	Blinks	Lights

Note 2: Pin 15 (REC/TALLY)

This signal indicates the operating status of VTR. The specifications of the signal is shown below.

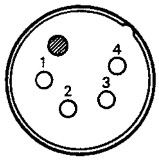

Spec.
1 ± 0.2Hz
or 4 ± 0.8Hz
(duty 50 ± 1%)
5.0 ± 1.0V
2.5 ± 0.5V
0 ± 0.3V
VTR Operation
VTR POWER "OFF"
VTR POWER "ON"
VTR ALARM
VTR RECORD
REC RERET
10 to 100ms

VTR ALARM : When an abnormality is detected in VTR.
When the VTR has started recording.

VTR RECORD : When the VTR is recording.

VTR RESET : When the recording is stopped from VTR side.

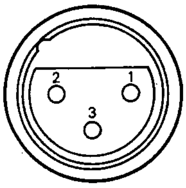
DC (4P, MALE)



(EXT VIEW)

No.	Signal	Specification
1	EXT DC IN (G)	GND
2		
3		
4	EXT DC IN (X)	10.5 to 17.0 Vdc

MIC (3P, FEMALE)



(EXT VIEW)

No.	Signal	Specification
1	MIC IN (G)	GND for MIC
2	MIC IN (X)	− 60 dBm Zi ≦ 600 Ω BALANCED (Phantom : 48V ± 4V)
3	MIC IN (Y)	

2-3-2. Connections

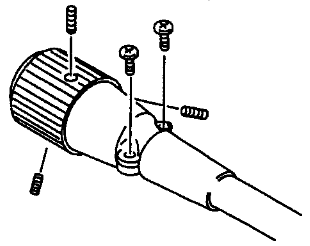
Connections made with the connector panels during installation or service, should be made with the connectors or complete cable assemblies specified in the following list, or equivalent parts.

Connector function	Parts No. and name of connector with cable
VTR／CCU／CMA (26P, MALE)	1-564-184-00 CONNECTOR, 26P, FEMALE • For 10P-VTR use CCZJ-2 (2m) CCZJ-5 (5m) • For 14P-VTR use CCZQ-A2 (2m) CCZQ-A5 (5m) CCZQ-A10 (10m) • For 26P-VTR CCZ-A2 (2m) CCZ-A5 (5m) CCZ-A10 (10m) • For 14P-CCU use CCZQ-A2AM (2m) • For 26P-CCU use CCZ-A25 (25m) CCZ-A50 (50m) CCZ-A100(100m)
DC IN (4P, MALE)	1-506-261-00 XLR-4P, FEMALE 1-551-969-00 CORD, with CONNECTOR
MIC IN (3P, FEMALE)	1-516-125-00 XLR-3P, MALE Canon XLR-3-12C equallity
GENLOCK (BNC)	1-560-069-00 PLUG, BNC

2-3-3. Removal of the CCZ/CCZJ/CCZQ Connectors

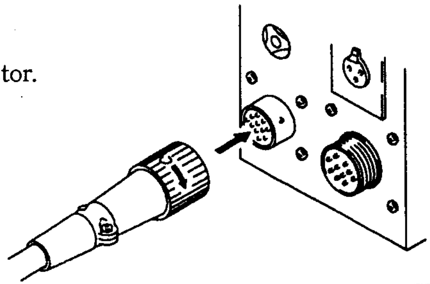
Step 1.

Remove the three hexagonal setscrews and the two setscrews.



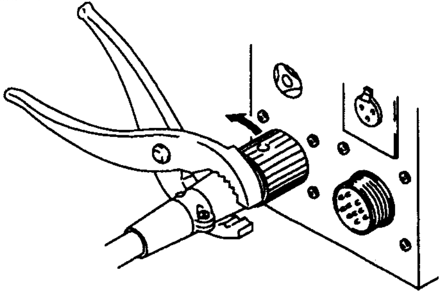
Step 2.

Fix the CCZ/CCZJ/CCZQ connectors at the camera or VTR connector.



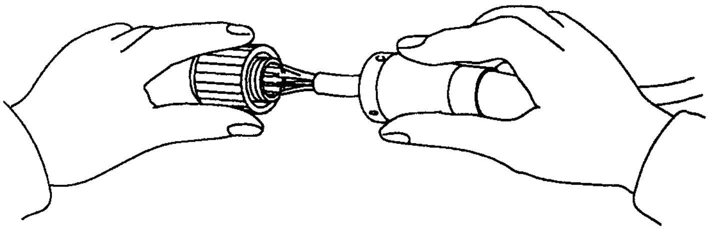
Step 3.

Rotate the CCZ/CCZJ/CCZQ connectors to counterclockwise by the plier and loosen it.



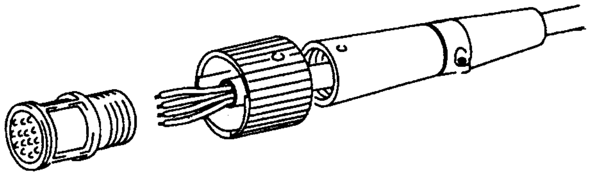
Step 4.

It can be removed by hand and unsolder.



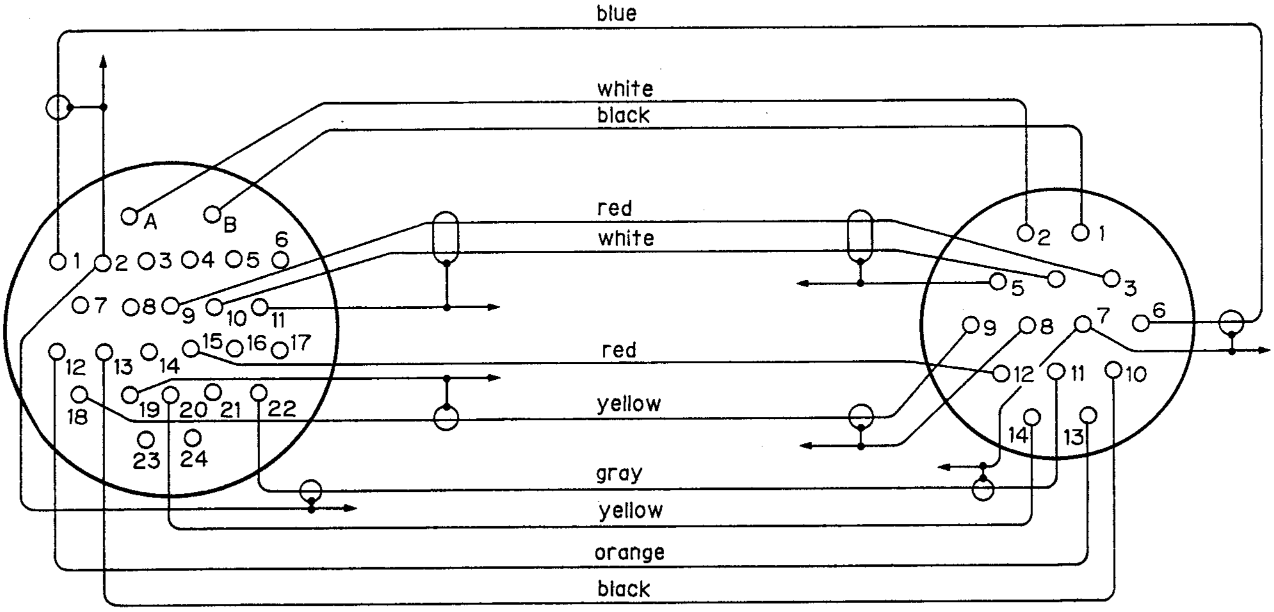
Step 5.

It can be broken up as shown in Figure.



2-3-4. Cable Wiring

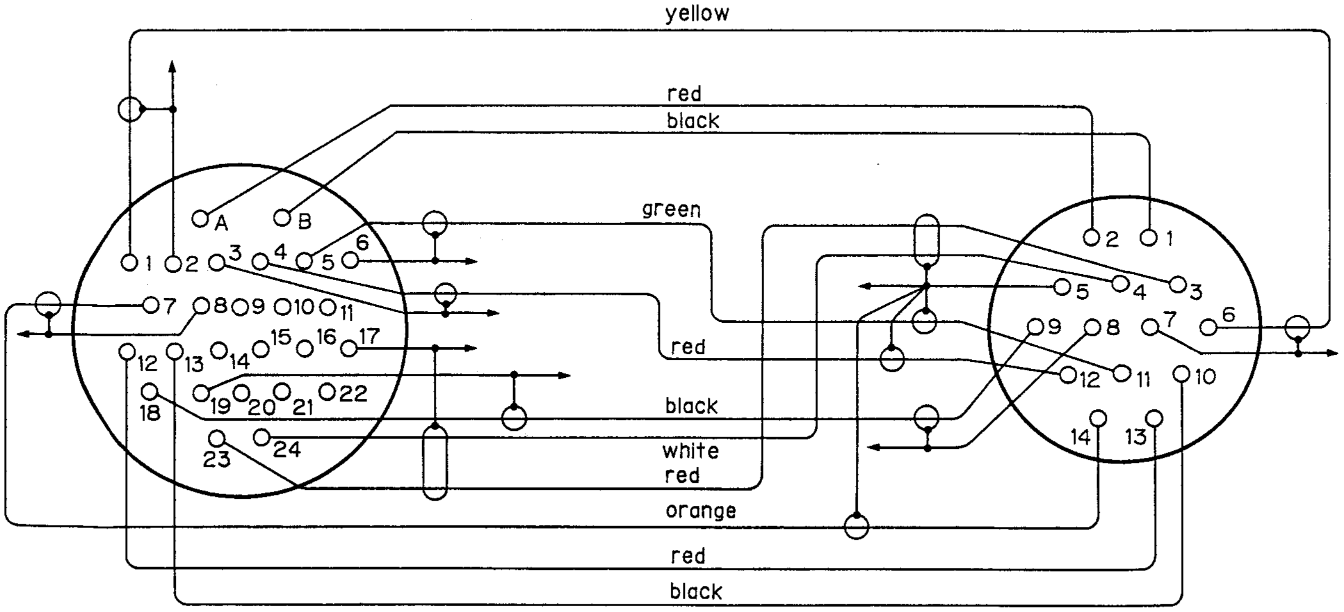
CCZQ-An Cable (Wiring diagram)


blue
white
black
red
white
red
yellow
gray
yellow
orange
black
A
B
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
1
2
3
5
6
7
8
9
10
11
12
13
14

26P CONNECTOR (FEMALE)
(WIRING SIDE)

14P CONNECTOR (MALE)
(WIRING SIDE)

CCZQ-AnAM Cable (Wiring diagram)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red
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black
white
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orange
red
black
A
B
1
2
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4
5
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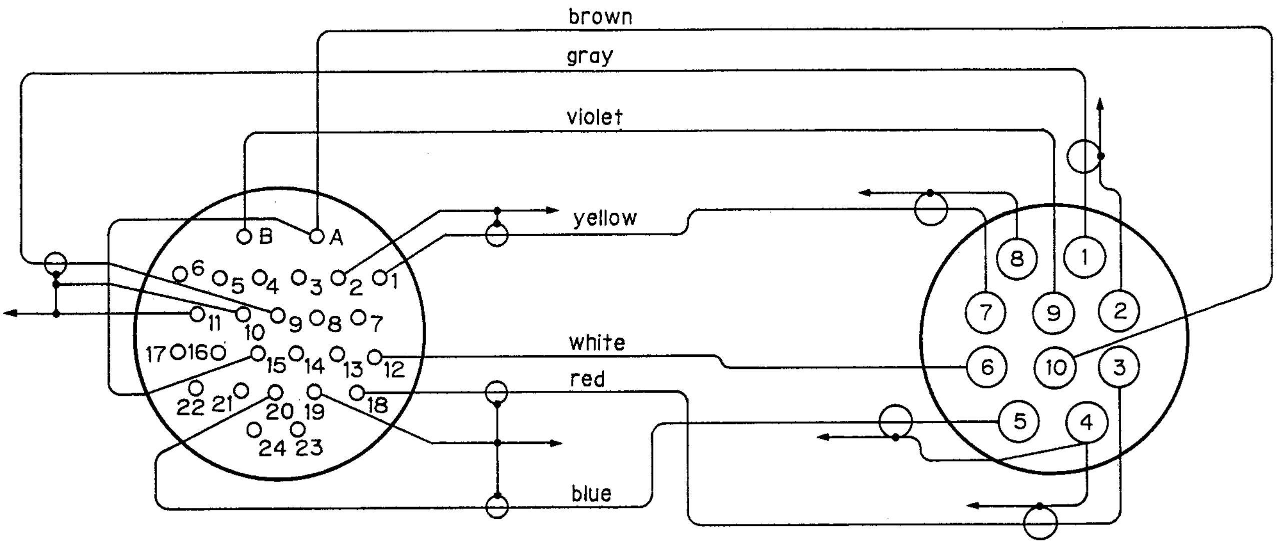
23
24
1
2
3
4
5
6
7
8
9
10
11
12
13
14

26P CONNECTOR (FEMALE)
(WIRING SIDE)

14P CONNECTOR (MALE)
(WIRING SIDE)

CCZJ Cable (Wiring diagram)


brown
gray
violet
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white
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blue
B
A
6
5
4
3
2
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11
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9
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17
16
15
14
13
12
22
21
20
19
18
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3
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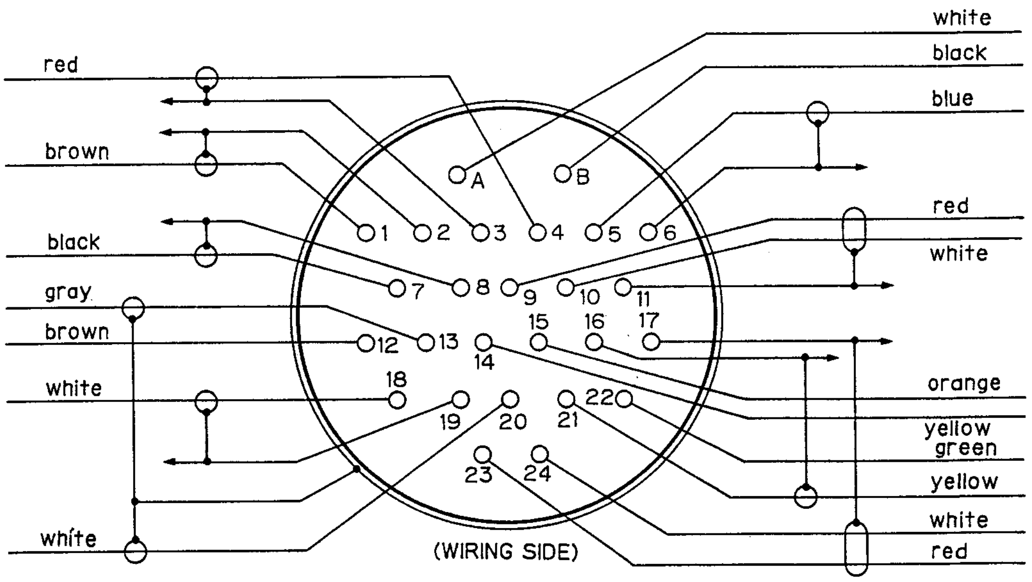
4

CCZ - An Cable (Wiring diagram)

26p CONNECTOR (FEMALE/MALE)


red
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blue
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orange
yellow green
yellow
white
red
A
B
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4
5
6
7
8
9
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11
12
13
14
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16
17
18
19
20
21
22
23
24
(WIRING SIDE)

2-4. INITIAL SWITCH SETTING

IF-313 board

- S1 (OUTPUT)

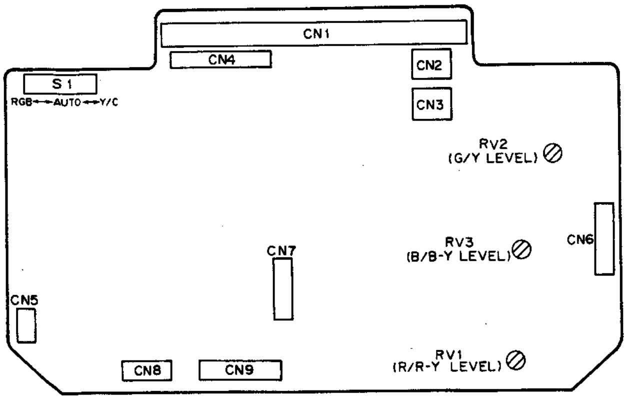
The video signal output at 26-pin connector is selected using the switch S1 (OUTPUT).
When set the switch to 「RGB」 position, R, G and B video signals are output.
When set it to 「AUTO」 position, one of a component signal, RGB video signal or Y/C separation signal is automatically selected. If no CCU is connected, the component signal is output. If the CCU-M3 is connected, the RGB video signal is output. If the CCU-M7 is connected, one of the above three signals is output according to setting of the video signal selector on the CCU-M7 rear panel.
When set to 「Y/C」 position, a Y/C separation signal is output.
Normally set to 「AUTO」 position.

AU-141 board

- S1 (VTR START/RETURN VIDEO)

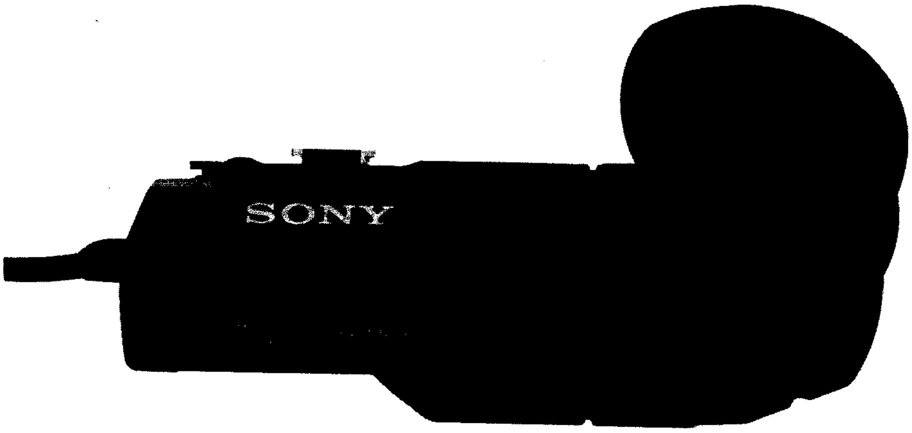
For details, refer to the DXC-537/537P instruction manual.

IF-313(-11) BOARD -CONPONENT SIDE-



1.5INCH ELECTRONIC VIEWFINDER

DXF-501



SPECIFICATIONS

Picture tube	1.5-inch monochrome
Indicators	REC/TALLY indicator BATT indicator SHUTTER indicator GAIN UP indicator
Resolution	400 lines
Power requirements	12 V DC
Power consumption	2.3 W
Weight	Approx. 500 g (1 lb 2 oz)
Dimensions	Approx. 182 × 68 × 205 mm (w/h/d)
Supplied accessory	Operating Instructions (1)

Design and specifications are subject to change without notice.

SONY®

SERVICE MANUAL

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1-6. Operation...1-6

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SECTION 1
GENERAL DESCRIPTION

The DXF-501/501CE is a 1.5-inch monochrome electronic viewfinder designed to be used with the Sony DXC-327/327P series color video camera. This instruction manual is for both the DXF-501 and the DXF-501CE. The operating instructions for both viewfinders are the same, but their signal systems and their color video cameras to be connected are different.

	Signal system	Color video camera
DXF-501	EIA standards, NTSC color system	DXC-327 and DXC-325 series camera
DXF-501CE	CCIR standards, PAL color system	DXC-327P and DXC-325P series camera

Please refer to the camera's instruction manual for the viewfinder's operation.

1-1. PRECAUTIONS

Operation

- Do not use the unit in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Do not point the viewfinder directly at the sun, or the plastics inside the viewfinder may be damaged.
- Do not use the viewfinder except within −10°C to +45°C (14°F to 113°F).
- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Allow adequate air circulation to prevent internal heat build-up.
- Do not expose the unit to the extremely high temperature and humidity.

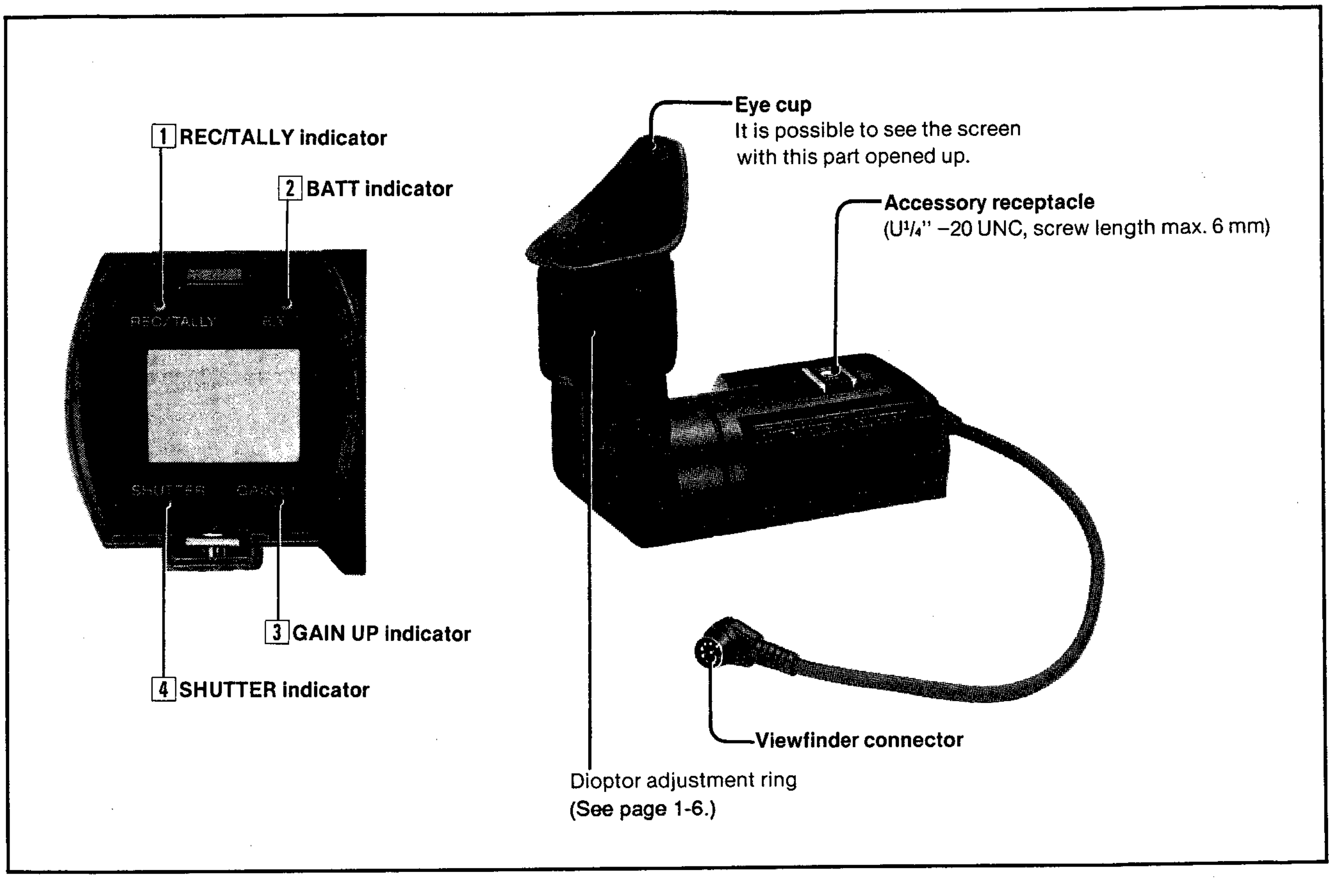
Cleaning

Clean the cabinet, panel and controls with a dry soft cloth, or soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzine, which might damage the finish.

Repacking

Do not discard the carton. It affords maximum protection whenever the unit is transported.

1-2. LOCATION AND FUNCTION OF PARTS

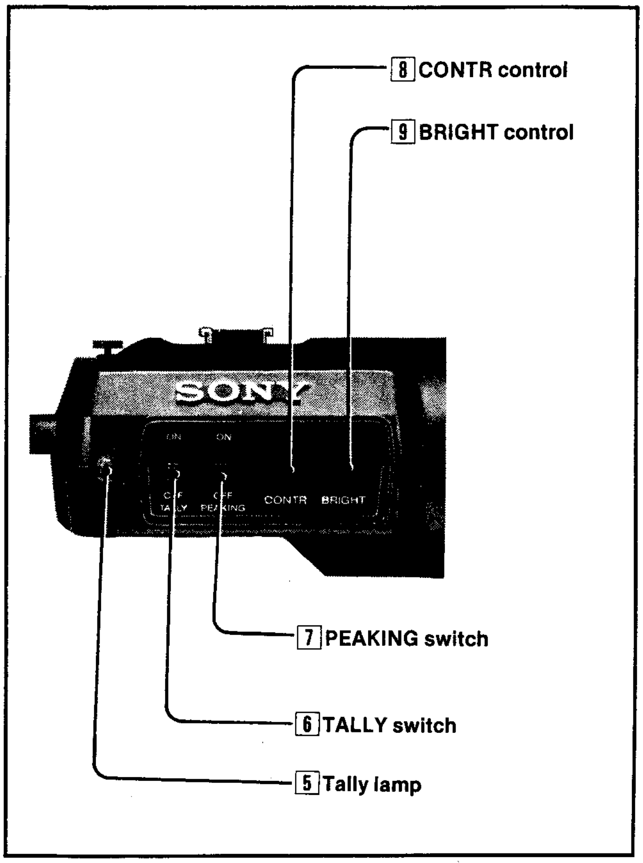

1 REC/TALLY indicator
2 BATT indicator
REC/TALLY
BATT
SHUTTER
GAIN UP
3 GAIN UP indicator
4 SHUTTER indicator
Eye cup
It is possible to see the screen with this part opened up.
Accessory receptacle
(U¼" –20 UNC, screw length max. 6 mm)
Viewfinder connector
Dioptor adjustment ring
(See page 1-6.)

1 REC/TALLY indicator
Lit during recording with one camera, and lit when the camera's picture is selected by a control consoleor, a video switcher, connected to the CCU-M3/M3P camera control unit which is connected to the camera.
The indicator blinks depending on the warning system of the VTR.

2 BATT (battery) indicator
Starts blinking several minutes before the battery of the VTR, the CCU-M3/M3P camera control unit or the camera adaptor is discharged to a level at which it cannot power the VTR or the camera control unit (about 11 V), and illuminates steadily when the battery has discharged to that level. (For details, refer to the camera's operating instructions.)

3 GAIN UP indicator
Lights up when the GAIN selector is set to the 9 dB or 18 dB.

4 SHUTTER indicator
This indicator lights up when the SHUTTER switch on the camera head is set to ON.


[8] CONTR control
[9] BRIGHT control
SONY
ON
ON
OFF
TALLY
OFF
PEAKING
CONTR
BRIGHT
[7] PEAKING switch
[6] TALLY switch
[5] Tally lamp

[5] Tally lamp
When the TALLY switch [6] is set to ON, this lamp operates the same as the REC/TALLY indicator [1].

[6] TALLY switch
ON: The tally lamp [5] is activated.
OFF: The tally lamp [5] is deactivated.

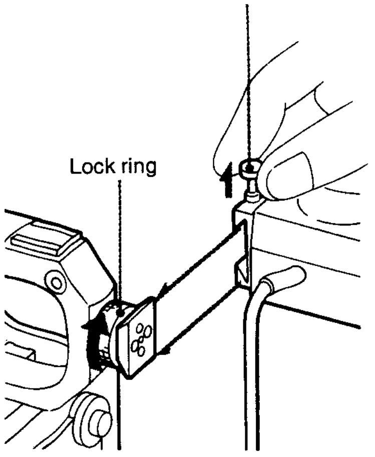
[7] PEAKING switch
ON: The picture on the viewfinder screen will be sharpened so that the lens can be focused easily.
OFF: Normal position.

[8] CONTR (contrast) control
Used to adjust the contrast of the picture on the viewfinder screen.
This control does not affect the output signal of the camera.

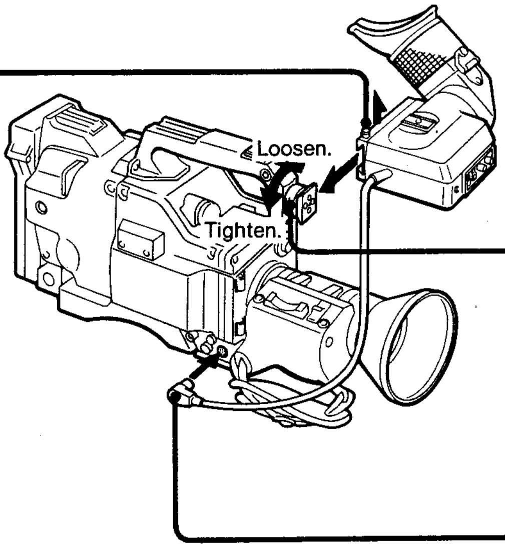
[9] BRIGHT (brightness) control
Used to adjust the brightness of the picture on the viewfinder screen.
This control does not affect the output signal of the camera.

1-3. ATTACHING THE ELECTRONIC VIEWFINDER TO THE CAMERA

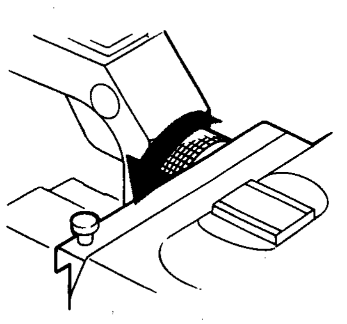
1 Loosen the lock ring, and align and slide the viewfinder into the mount, while pulling the pin up.



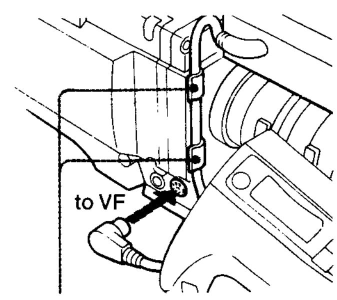
To detach the viewfinder, loosen the lock ring, and slide the viewfinder while pulling the pin up.


Loosen.
Tighten.

2 Tighten the lock ring.



3 Connect the viewfinder connector.


to VF
Clamp the cord.

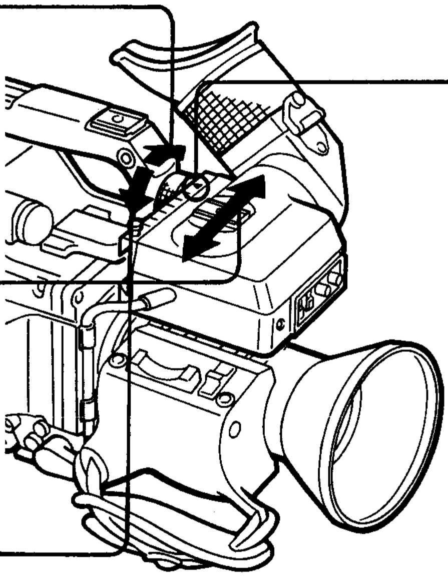
1-4. FOR EASY OPERATION OF THE VIEWFINDER

Adjustment of the horizontal position

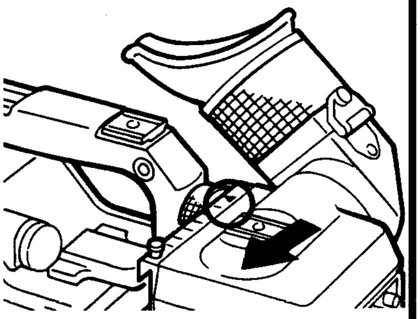
1 Loosen the lock ring.

2 Slide the viewfinder to the desired position.

3 Tighten the ring.

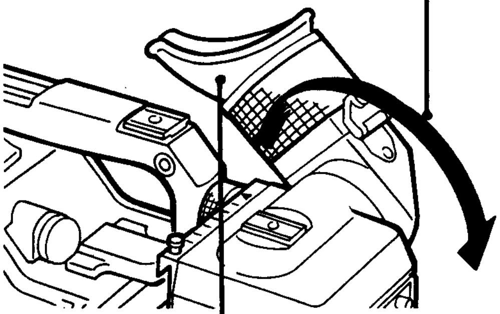


To insert the camera into the carrying case with the viewfinder attached to it, slide the viewfinder to the left side and tighten the lock ring.



Adjustment of the eye cup position

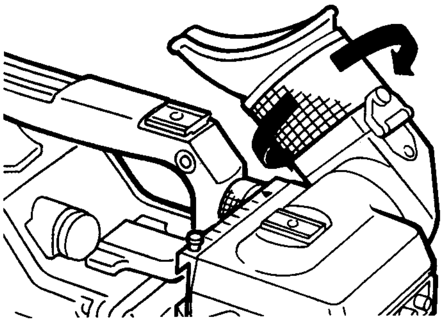
1 Tilt the eye cup up and down for comfortable use.



2 Rotate the eye cup to fit your left or right the eye.

1-5. DIOPTER ADJUSTMENT

Each operator's eyesight is different, so it may be necessary to adjust the diopter when a new operator uses the viewfinder.
Turn the diopter ring after focusing. The adjustable range is from −1D to −3D.



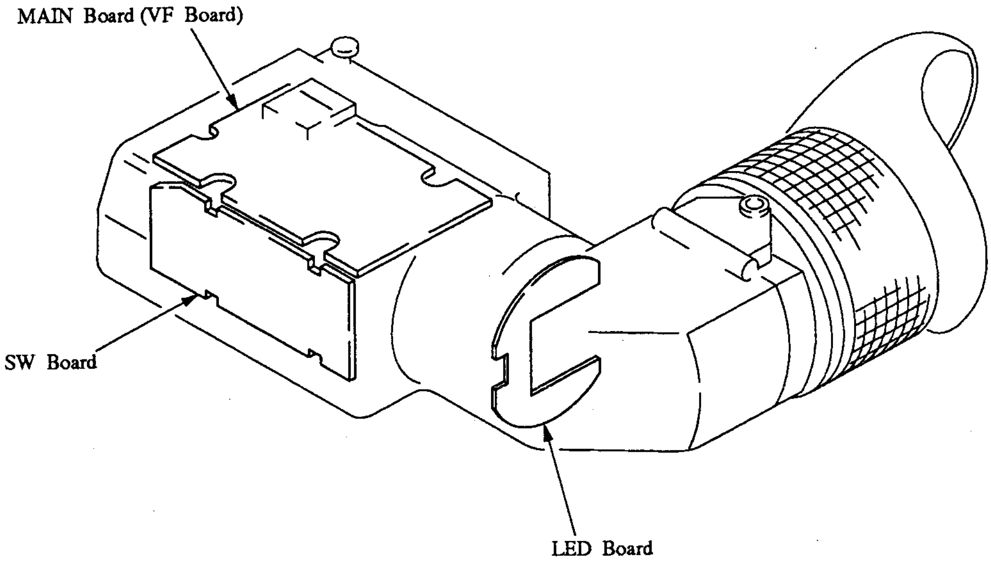
1-6. OPERATION

1	Turn on the power to the camera. The power is supplied to the viewfinder automatically.
2	Adjust the position and angle of the viewfinder screen for easy viewing as shown in "For Easy Operation of the Viewfinder" on page 1-5. If necessary, adjust the diopter as shown in "Diopter Adjustment" on page 1-6.
3	Adjust the CONTR and BRIGHT controls for the best picture.
4	While recording, the picture shot by the camera appears on the screen, and the REC/TALLY indicator lights. Focus on the object while viewing the picture on the viewfinder screen. If necessary, use the VF MARKER selector on the camera to display the safety zone and/or center marker on the viewfinder screen.

- When the VTR is in the playback mode, the playback picture appears on the screen.
- The settings of the PEAKING switch, and the CONTR and BRIGHT controls do not affect the video output signal of the camera.
- When the BRIGHT control is turned fully counterclockwise, the picture does not appear on the screen.

SECTION 2
SERVICE INFORMATION

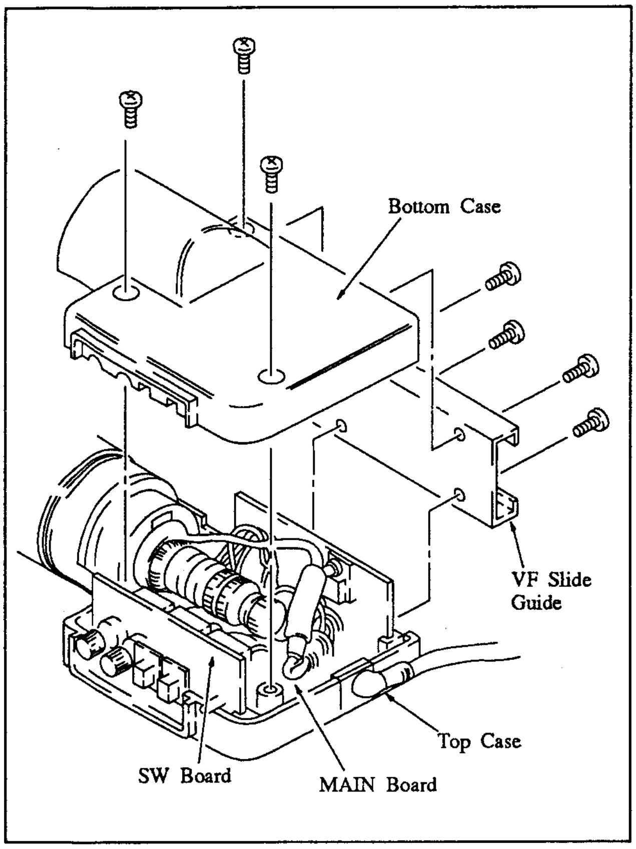
2-1. BOARD LAYOUT


MAIN Board (VF Board)
SW Board
LED Board

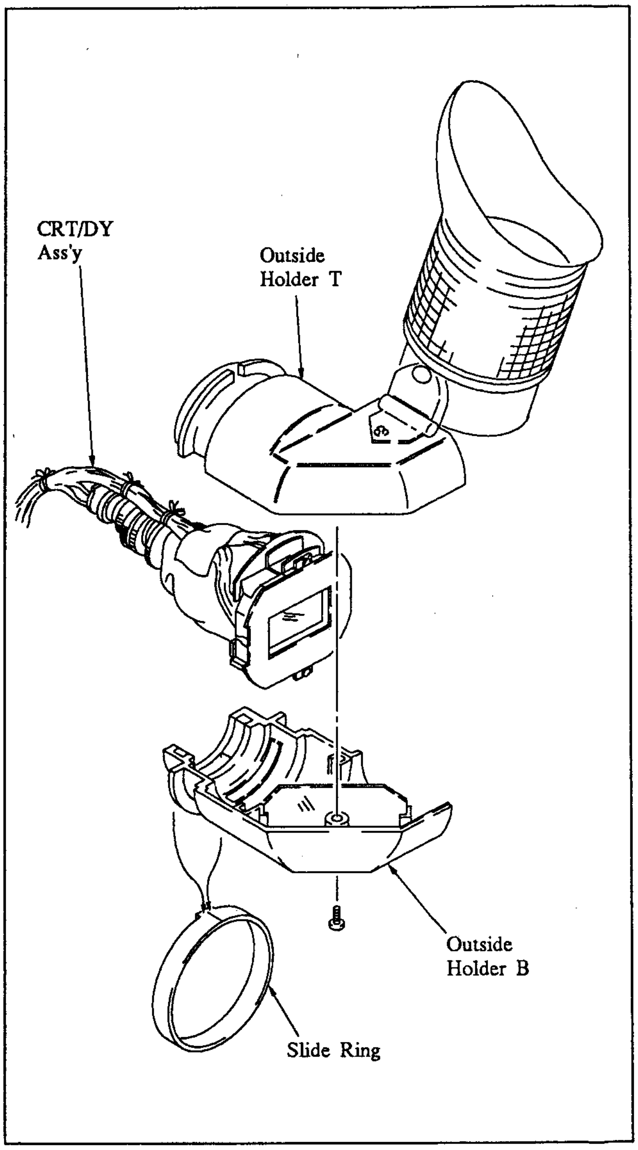
2-2. REPLACEMENT OF CRT/DY ASSY

Note: If a deflection yoke is replaced, you should replace assembly of CRT and deflection yoke (CRT/DY ASSY).

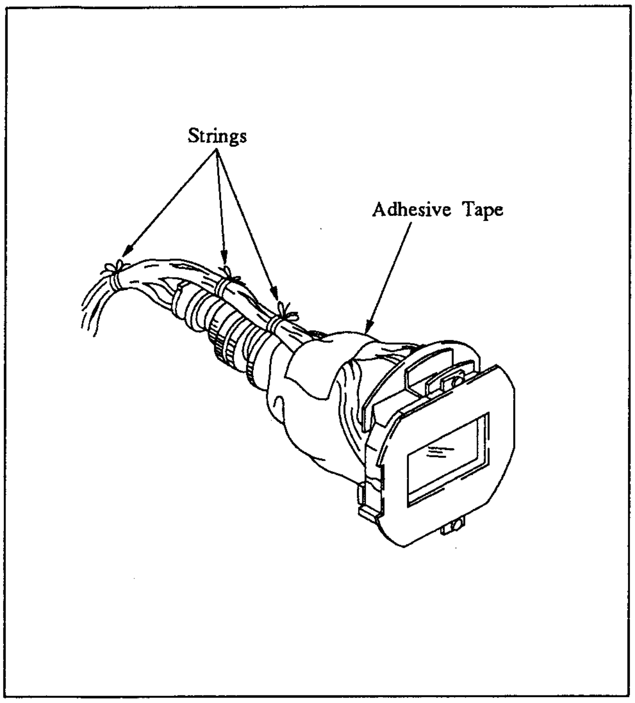
1. Remove seven screws shown in Figure.
   Remove the bottom case and VF slide guide.
   Extract the SW board and MAIN board from a top case.


Bottom Case
VF Slide Guide
Top Case
SW Board
MAIN Board

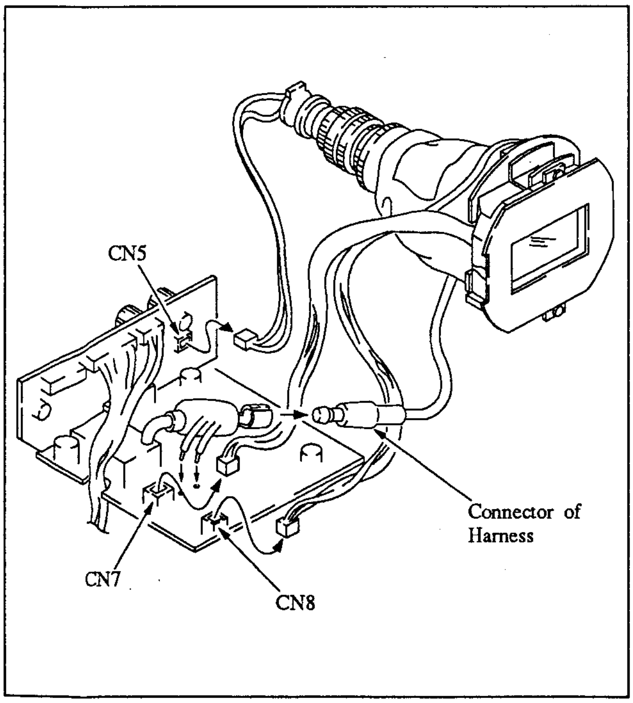
2. Remove the slide ring shown in Figure.
   Remove a screw and remove the CRT/DY ASSY from outside holders B and T.


CRT/DY Ass'y
Outside Holder T
Outside Holder B
Slide Ring

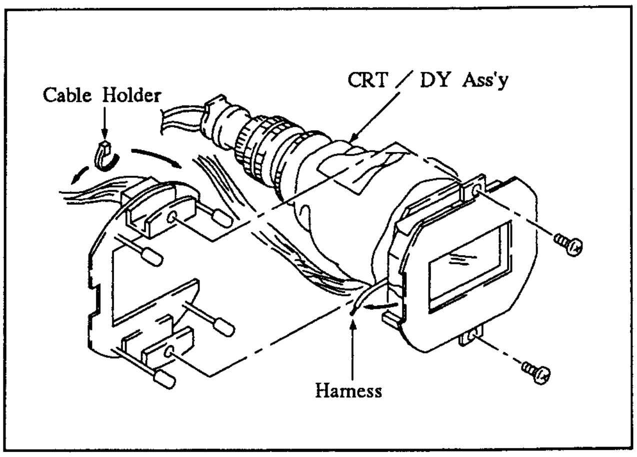
3. Untie three strings and remove an adhesive tape.


Strings
Adhesive Tape

4. Disconnect a connector CN5 on the SW board and disconnect two connectors CN7 and CN8 on the MAIN board. Unsolder two wires and disconnect the connector of harness as illustrated.


CN5
Connector of Harness
CN7
CN8

5. Unsolder the harness shown in Figure.
   Remove two screws and remove the LED board from the CRT/DY ASSY.
   Note: When removing the LED board, be careful not to damage four LEDs (light-emitting diodes) on the LED board.


Cable Holder
CRT / DY Ass'y
Harness

6. When installing a new CRT/DY ASSY, reverse the procedures above.

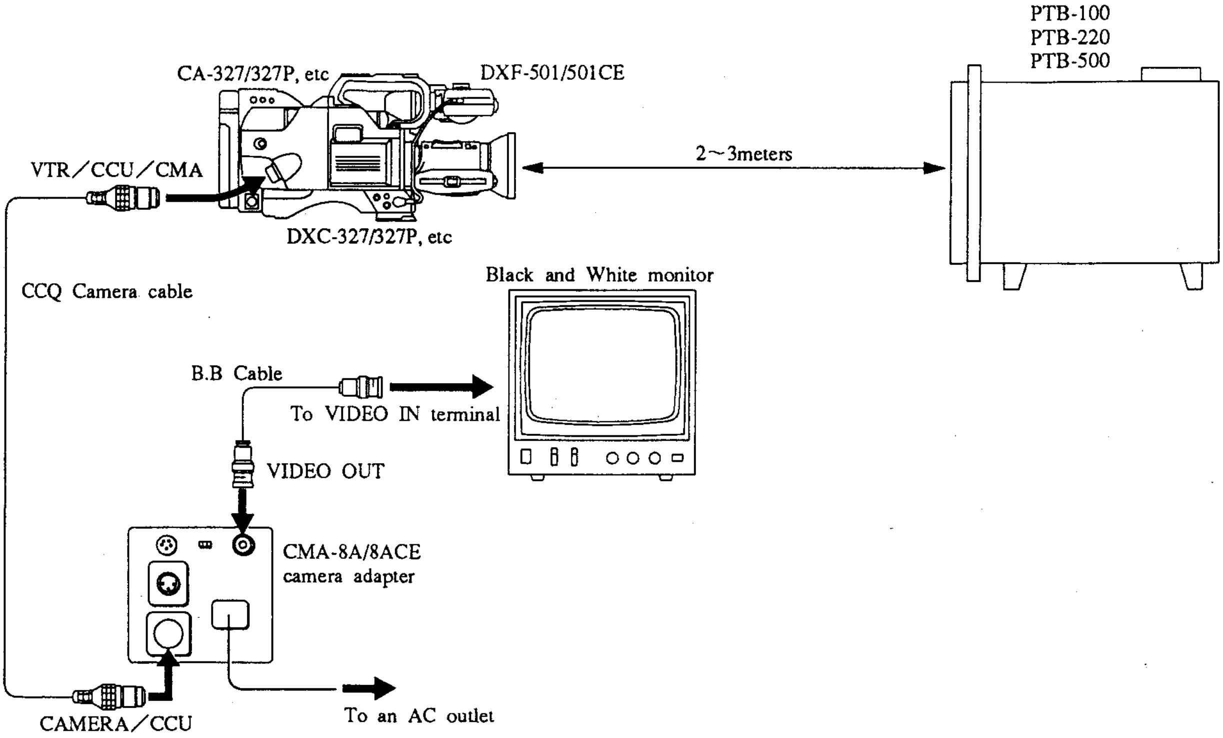
SECTION 3
ALIGNMENT

3-1. PREPARATION

3-1-1. Equipment Required

1. Pattern Box PTB-100/220/500
   Sony Part number J-6029-140-A: Pattern Box PTB-500
2. Resolution chart: Sony Part number J-6021-870-A
3. Video Camera DXC-327/327P, etc
4. Camera Adapter CA-327/327P, etc
5. AC Adapter CMA-8A/8ACE
6. Camera Cable CCQ-2BRS
7. Black and White monitor PVM-91/91CE or equivalent
8. Oscilloscope
9. Waveform Monitor

3-2. CONNECTION AND INITIAL SETTING


PTB-100
PTB-220
PTB-500
CA-327/327P, etc
DXF-501/501CE
VTR/CCU/CMA
2~3meters
DXC-327/327P, etc
Black and White monitor
CCQ Camera cable
B.B Cable
To VIDEO IN terminal
VIDEO OUT
CMA-8A/8ACE
camera adapter
CAMERA/CCU
To an AC outlet

3-2-1. Initial Setting

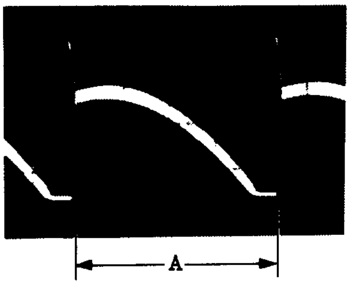
1. Set the camera switches and controls as follows.
   Video Camera
   BARS switch: ON
   GAIN selector: 0 dB
   DXF-501 Viewfinder
   CONTR control: Fully clockwise
   BRIGHT control: Center
   Lens
   Iris selector: AUTO
2. Preparation for picture
   (1) Adjust the zoom control so that the resolution chart frame touches the underscanned picture frame on the monitor.
   (2) Adjust the iris control for the best resolution of the monitor.

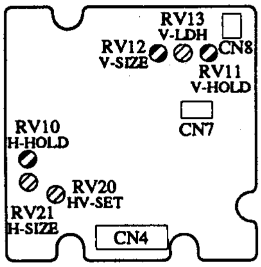
3-3. VF SYSTEM ADJUSTMENT

3-3-1. Vertical Hold Adjustment

Equipment: Oscilloscope
Preparation: 1. Pull the ES-2 board out of the camera.
2. Set ⊘RV12 (V SIZE)/MAIN board to the mechanical center unless it is marked.
Test point: CN8–1pin/MAIN board
Adj. point: ⊘RV11 (V HOLD)/MAIN board
Specification: A=25.6±0.3 mS

Note: After this adjustment is completed, insert the ES-2 board into the camera.





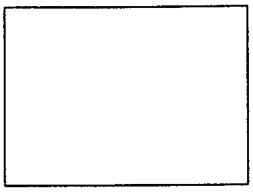
MAIN BOARD
(COMMPONENT SIDE)

3-3-2. Horizontal Hold Adjustment

Object: White window chart
Equipment: Oscilloscope, Waveform monitor
Trigger: CH2/Oscilloscope
Preparation:

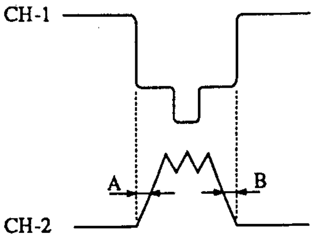
1. Adjust the zoom control so that the white window frame touches the underscanned picture frame on the monitor screen.

Monitor Screen



2. Adjust the iris control so that the white level at VBS OUT terminal is as follows.
NTSC : 100±2 IRE
PAL : 700±14 mV

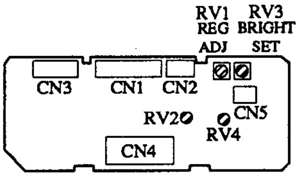
Test point: CH1 CN5–2pin
CH2 CN4–3pin
Adj. point: ⊘RV10 (H HOLD)/MAIN board
Adjustment:



A=B

3-3-3. Bright Calibration Adjustment

Object: Resolution chart
Preparation: Turn ⊘RV4 (BRIGHTNESS)/SW board → fully counterclockwise.
Turn ⊘RV2 (CONTRAST)/SW board → fully clockwise.
Adjustment: Adjust the picture by turning ⊘RV3/SW board counterclockwise from the rightmost position so that the black and white gradation scale is black up to the third step and the fourth step is recognizable.



SW BOARD
(COMPONENT SIDE)

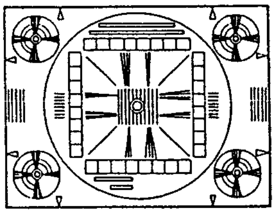
3-3-4. Focus Adjustment

Note: Step 3-3-5. Picture Frame Adjustment and this adjustment affect each other.
Repeat these adjustments until both specifications are met.
Object: Resolution chart
Equipment: Waveform monitor
Preparation:
1. Iris selector (Lens) → "MANU"
2. BRIGHT control (Viewfinder) → mechanical center
3. CONTRAST control (Viewfinder) → fully clockwise ○
4. PEAKING switch (Viewfinder) → "OFF"

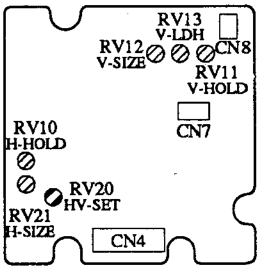
Adjustment:

1. Adjust the zoom control so that the resolution chart touches the underscanned picture frame on the monitor.

Monitor Screen



2. Adjust iris control so that the peak level at TEST OUT terminal is as follows.
   NTSC : 100±2 IRE
   PAL : 700±14 mV
3. Adjust ⊘RV20 (FOCUS)/MAIN board so that the picture on the viewfinder is best focused.



MAIN BOARD
(COMMPONENT SIDE)

3-3-5. Picture Frame Adjustment

Note: Step 3-3-4. Focus Adjustment and this adjustment affect each other. Repeat these adjustments until both specifications are met.

Object: Resolution chart

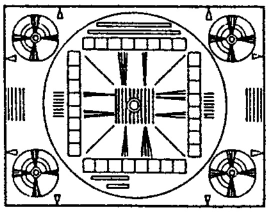
Equipment: Waveform monitor

Preparation:
1. BRIGHT control (Viewfinder)
   → mechanical center
2. CONTRAST control (Viewfinder)
   → mechanical center
3. PEAKING switch (Viewfinder)
   → "OFF"
4. Remove the eye cap from the viewfinder.

Adjustment:

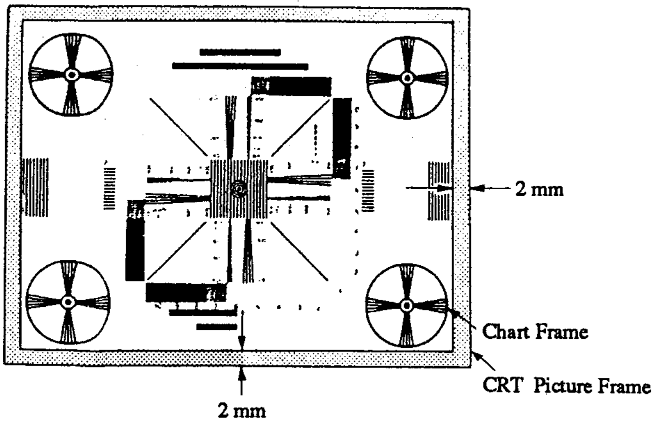
1. Adjust the zoom control so that the resolution chart frame touches the underscanned picture frame on the monitor screen. Adjust the iris control so that the white level at TEST OUT terminal is 100±2 IRE.

Monitor Screen

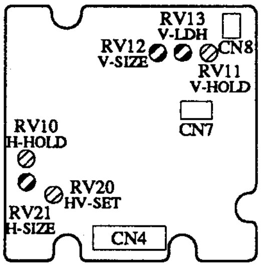


2. Adjust ⊘RV21 (H SIZE)/MAIN board so that the H size of resolution chart is underscanned by approx. 2 mm from the CRT picture frame.
3. Adjust ⊘RV12 (V SIZE)/MAIN board so that the V size of resolution chart is underscanned by approx. 2 mm from the CRT picture frame.

Viewfinder Screen



4. Adjust ⊘RV13 (V LIN)/MAIN board so that the distortion of each circle at the four corners of resolution chart is minimized.
5. Repeat item 2 to item 4 until the specifications are met.



MAIN BOARD
(COMMPONENT SIDE)

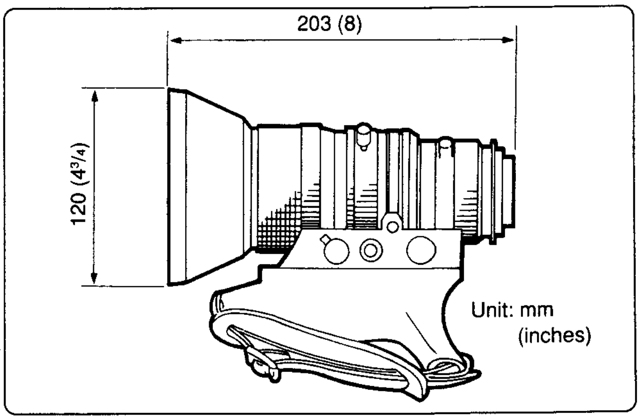
VCL-916BY

ZOOM LENS

SPECIFICATIONS

Focal length	9.5 to 152 mm
Zoom	Manual and motorized, selectable Zooming ratio: 16×
Maximum aperture ratio	1:1.8
Iris control	Manual and auto, selectable 1.8 to 16 and C (closed)
Range of object field (at the distance of 0.95 m)	W (wide angle): 823 × 617 mm (32½ × 24⅜ inches) T (telephoto): 51 × 38 mm (2⅛ × 1½ inches)
Minimum object distance	0.95 m
Filter thread	77 mm dia., 0.75 pitch
Mount	Bayonet mount, ⅔ inch
Weight	About 1.4 kg (3 lb 1 oz) without lens hood
Supplied accesory	Operating instructions (1)

Dimensions



Design and specifications are subject to change without notice.

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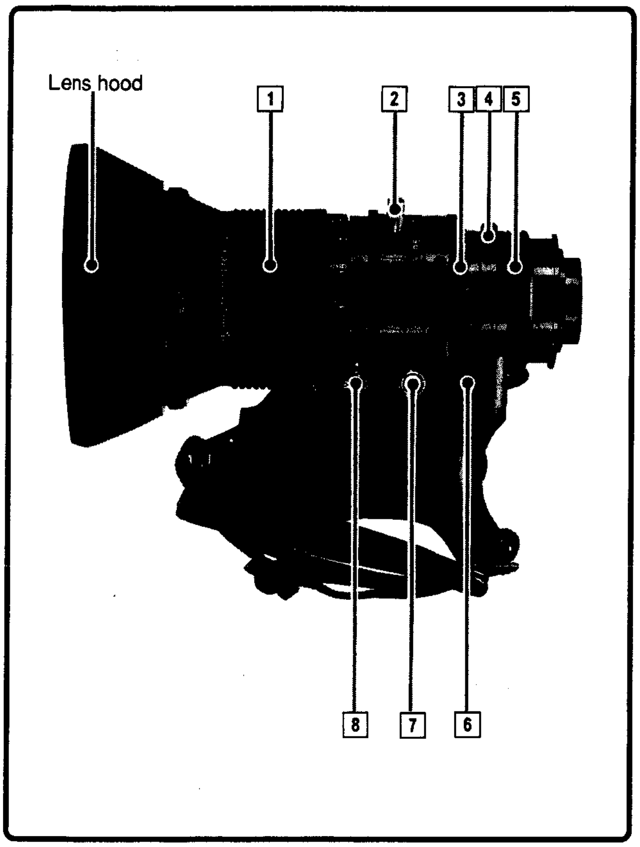
SECTION 1

GENERAL DESCRIPTION

1-1. LOCATION AND FUNCTION OF PARTS AND CONTROLS



1 **Focus ring**
Turn this ring for focusing.

2 **Manual zoom lever**
For manual zooming, turn this lever with the ZOOM selector 8 set to the M position.

3 **Iris ring**
For manual iris adjustment, turn this ring with the IRIS selector 10 set to the M position.

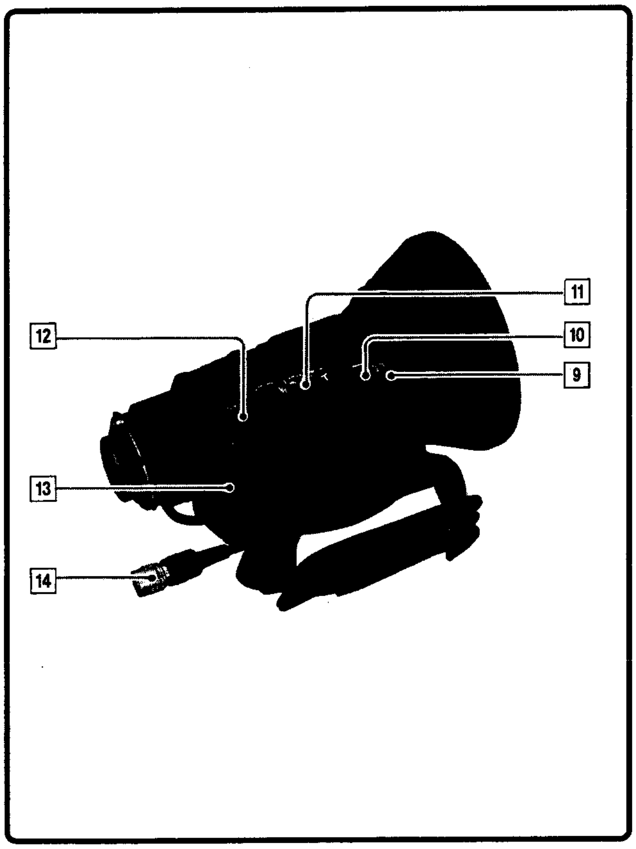
4 **Ff (flange focal length) adjustment ring**
For Ff adjustment, release the screw and turn the ring.

5 **MACRO ring**
Used for close-ups.

6 **Zoom remote control connector (8-pin)**
Connect an LO-23 lens remote control unit (optional) for remote control of zooming.

7 **Focus remote control connector (3-pin)**
Not used.

8 **ZOOM selector**
S: For motorized zooming.
M: For manual zooming.



9 **Instant automatic iris adjustment button**
The iris is automatically adjusted while this button is kept depressed when the IRIS adjustment selector 10 is set to M. When the button is released, the iris will be fixed at the value that has just been obtained by the automatic adjustment until the iris is adjusted again manually.

10 **IRIS selector**
A (automatic): For automatic iris adjustment.
M (manual): For manual iris adjustment.

11 **Motorized zoom switch**
Press either end of this switch for motorized zooming with the ZOOM selector set to S:W for a wide-angle picture and T for a telephoto picture. Zooming is fast when the switch is pressed down all the way and becomes slower when the switch is pressed down slightly.

12 **RET (return video) button**
Press to view the return video or the playback picture from the VTR on the viewfinder screen. (For details, refer to the instruction manual supplied with the camera.)

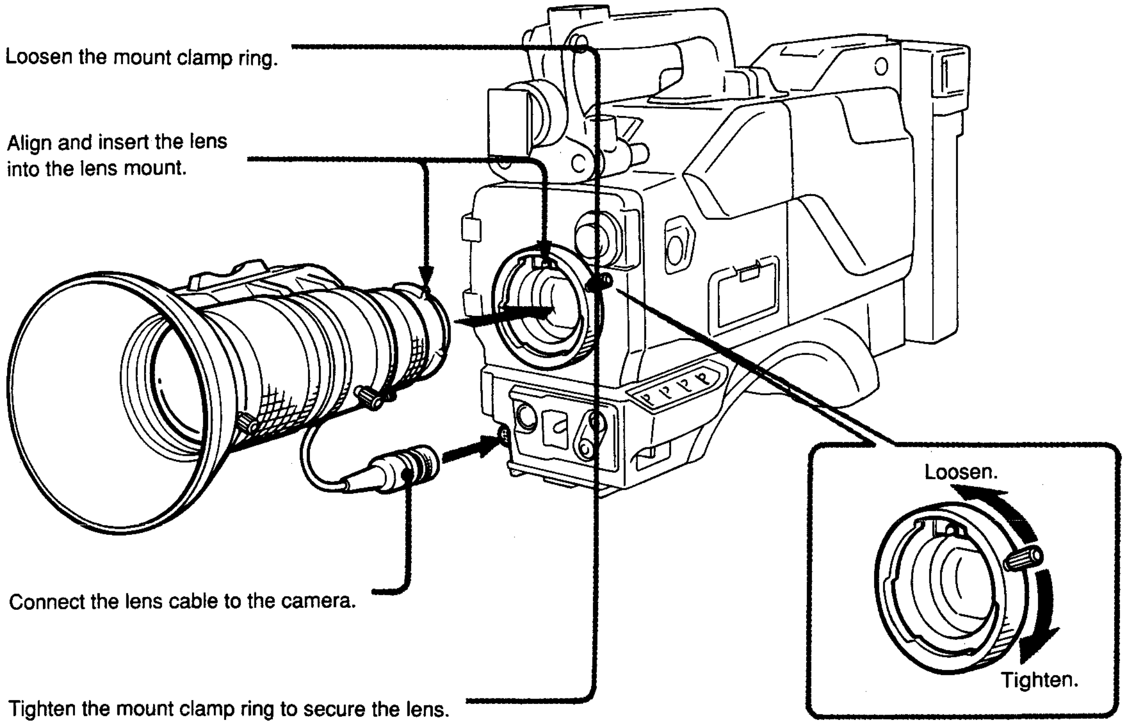
13 **VTR button**
When a portable VTR is connected to the camera, press this button to start and stop recording.
When a CCU-M7/M7P/M3/M3P camera control unit is connected to the camera, press this button to view the return video on the viewfinder screen.

14 **Lens cable (12-pin)**

1-2. HOW TO ATTACH THE LENS TO THE CAMERA

Note

If the protective cap is placed over the mount of the lens, remove it before attaching the lens.



1 Loosen the mount clamp ring.

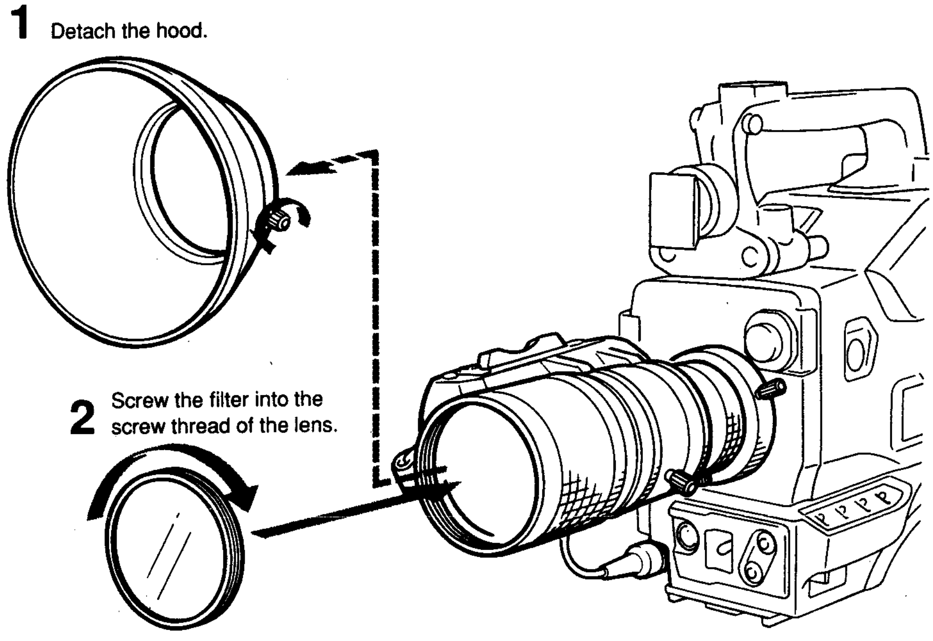
2 Align and insert the lens into the lens mount.

4 Connect the lens cable to the camera.

3 Tighten the mount clamp ring to secure the lens.

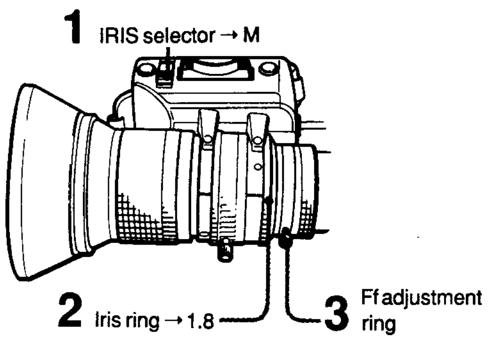
How to attach a filter to the lens

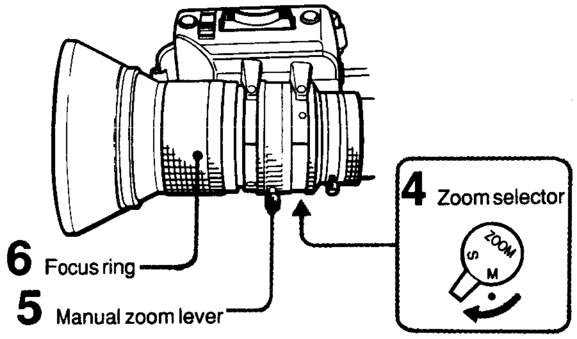
Detach the lens hood, then screw the filter on clockwise to attach.

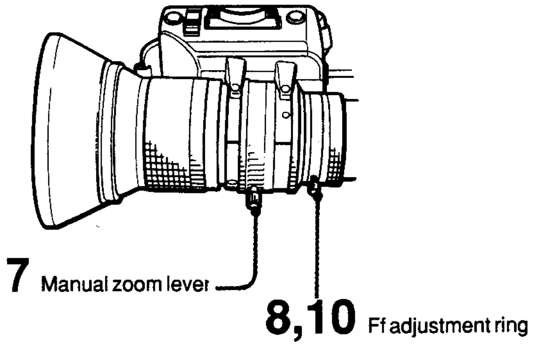

1 Detach the hood.
2 Screw the filter into the screw thread of the lens.

1-3. FLANGE FOCAL LENGTH ADJUSTMENT

The proper flange focal length adjustment insures that the object is in focus both at the wide-angle position and at the telephoto position when zooming.


1 IRIS selector → M
2 Iris ring → 1.8
3 Ff adjustment ring


4 Zoom selector
ZOOM
S
M
6 Focus ring
5 Manual zoom lever


7 Manual zoom lever
8,10 Ff adjustment ring

1 **Set the IRIS selector to M.**

2 Set the iris ring to "1.8".
Position an appropriate object and illuminate it so that the proper video level is obtained when the iris ring is set to "1.8".

3 **Loosen the screw on the Ff adjustment ring.**

4 Set the ZOOM selector to M.

5 **Turn the manual zoom lever to the "152" telephoto position.**

6 Turn the focus ring until the chart at about three meters (10 feet) from the lens is in focus.

7 **Turn the manual zoom lever to the "9.5" wide-angle position.**

8 Turn the Ff adjustment ring and focus on the chart used in step 6.

9 **Repeat steps 5 through 8 until the object is in focus both at the telephoto position and at the wide-angle position.**

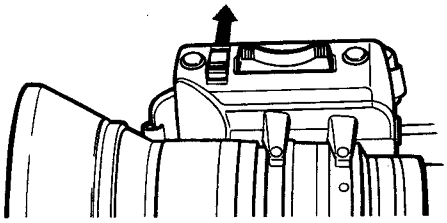
10 Tighten the screw on the Ff adjustment ring firmly.

Once the flange focal length adjustment has been made, readjustment is not necessary as long as the lens stays mounted on the same camera.

1-4. IRIS ADJUSTMENT

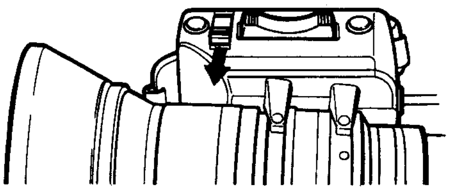
Automatic adjustment

Set the IRIS selector to A, and the iris will be automatically adjusted to the brightness of the object. Normally use the A position.



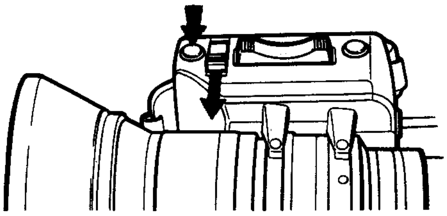
Manual adjustment

Set the IRIS selector to M, and turn the iris ring. Manual adjustment may be effective when recording an object against a bright sky or a scene with high contrast.



Temporary automatic adjustment

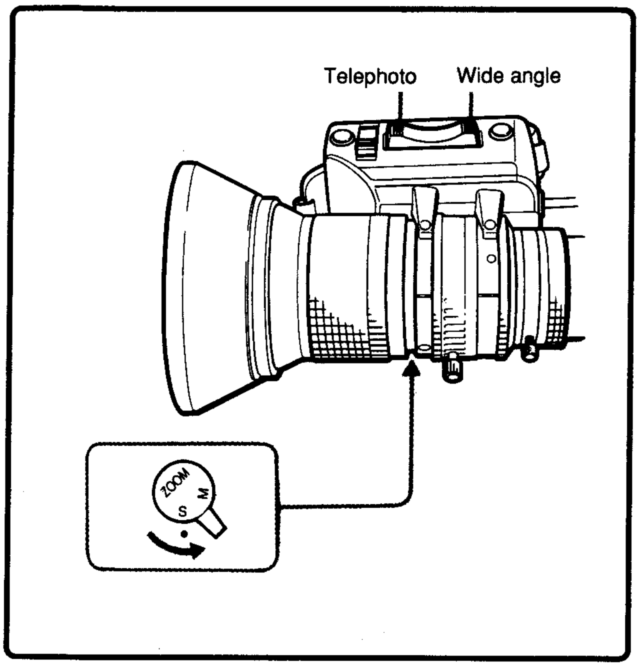
While the instant automatic iris adjustment button is kept depressed during manual iris adjustment, the iris is automatically adjusted. When the button is released, the iris will be fixed at the value that has just been obtained by the automatic adjustment until the iris is adjusted again manually with the iris ring.



1-5. ZOOMING

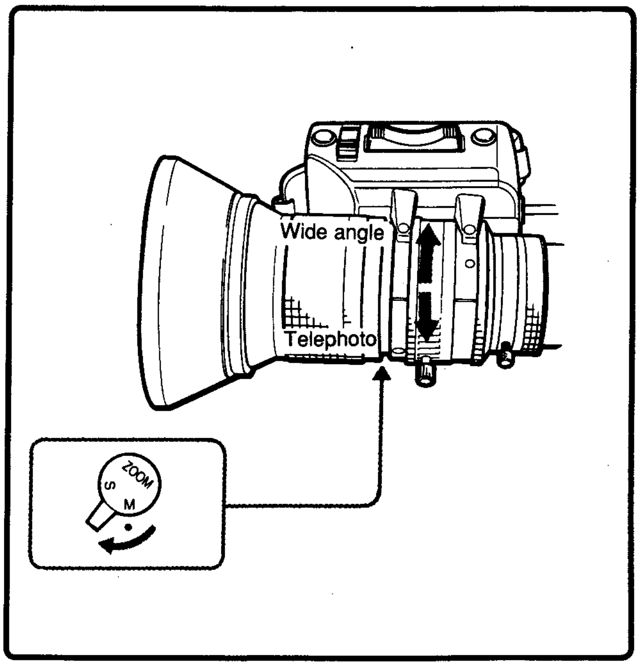
Motorized Zooming

You can zoom smoothly by pressing either end of the motorized zoom switch when the ZOOM selector is set to S. Zooming is fast when the motorized zoom switch is pressed down all the way and becomes slower when the switch is pressed slightly.


Telephoto
Wide angle
ZOOM
S
M

Manual Zooming

Manual zooming allows more precise control of the zooming speed. You can zoom manually by manipulating the manual zoom lever with the ZOOM selector set to M.


Wide angle
Telephoto
ZOOM
S
M

Tips on Zooming

Zoom in

From wide angle to telephoto. Used to bring a distant object up close.

Correct focusing

If the subject is in focus in the telephone position, it will remain in focus when you zoom back to wide angle.

Zoom out

From telephoto to wide angle. Used to move back from an object and gradually reveal the object's surroundings.

For a more stable picture

We recommend placing the camera on a tripod when zooming. If you zoom with the camera on your shoulder, stand as steady as possible.

Following

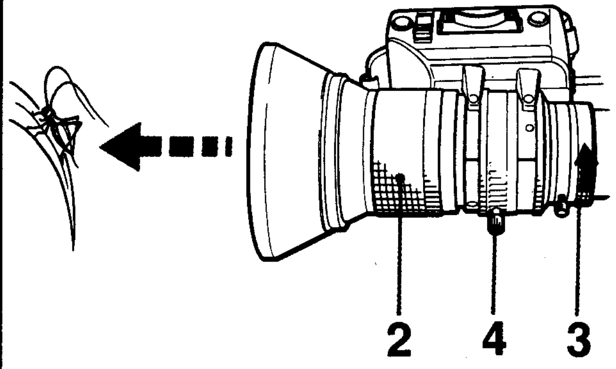
Zoom up on the subject and follow its movement with the camera. This zoom effect is used, for example, to emphasize the speed of the subject by making the background rush past in a blur.

Positioning the object at the center of the screen

For zoom in operacion, adjust the focus in the telephoto position, and set to the wide angle position. Then start zoom in operation. Otherwise the subject may be out of the screen during zooming in.

1-6. CLOSE-UPS—SHOOTING SMALL OR NEARBY OBJECTS

The close-up or macro function lets you zoom in flowers, insects and even photographs. The minimum distance from the lens to the object is 70 mm in the "9.5" wide-angle zoom position.



1 **Adjust the distance between the lens and the object to get the desired image size.**

2 Set the focus ring to the "∞" setting.

3 **Turn the MACRO ring in the direction of the arrow unit it stops.**

4 Focus by turning the manual zoom lever with the ZOOM selector set to "M".

When the close-ups operation is completed, return the MACRO ring to its click position.

Note

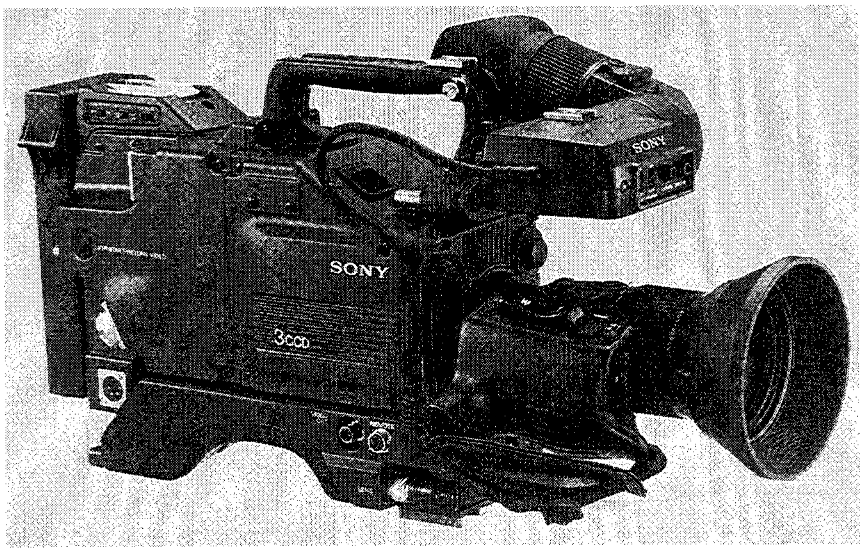
- If you wish to reduce the object's size on the screen, first adjust the focus following Steps 1 through 4 on the left page, then turn the MACRO ring slightly toward its original position and adjust the focus with the manual zoom lever again.
- If the focus ring is set to "∞" while the MACRO ring is turned in the direction of the arrow until it stops, the focus can be continually adjusted from the close-ups position to "∞" with the manual zoom lever.

COLOR VIDEO CAMERA
CAMERA ADAPTOR
1.5INCH ELECTRONIC VIEWFINDER
ZOOM LENS
TRIPOD ATTACHMENT
CAMERA CABLE

DXC-537
CA-537
DXF-501
VCL-916BY
VCT-14
CCZQ-A2

VOL.2 Revised-1

BLOCK DIAGRAMS
SEMICONDUCTORS
SCHEMATIC DIAGRAMS
BOARD ILLUSTRATIONS
SPARE PARTS



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X-RAY RADIATION WARNING

Be sure that parts replacement in the high voltage block and adjustments made to the high voltage circuits are carried out precisely in accordance with the procedures given in this manual.

SAFETY RELATED COMPONENT WARNING

Components identified by shading and ⚠ marked on the schematic diagrams and parts list are critical to safe operation. Replace these components with SONY parts whose part numbers appear as shown in this manual or in supplements published by SONY.

Warning—This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Important—To insure that the complete system (including this peripheral) is capable of complying with the FCC requirements, it is recommended that the user make sure that the individual equipment of the complete system has a label with one of the following statements.
"This equipment has been tested with a Class A Computing Device and has been found to comply with Part 15 of FCC rules."
—or—
"This equipment complies with the requirements in Part 15 of FCC rules for a Class A Computing Device."
—or equivalent.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a computing device pursuant to Subpart J of Part 15 of FCC Rules.

For the customers in Canada
This apparatus complies with the Class A limits for radio noise emissions set out in radio interference regulations.

Pour les utilisateurs au Canada
Cet appareil est conforme aux normes Class A , pour bruits radioelectriques. Tel que specifier dans le reglement sur le brouillage radioelectrique.

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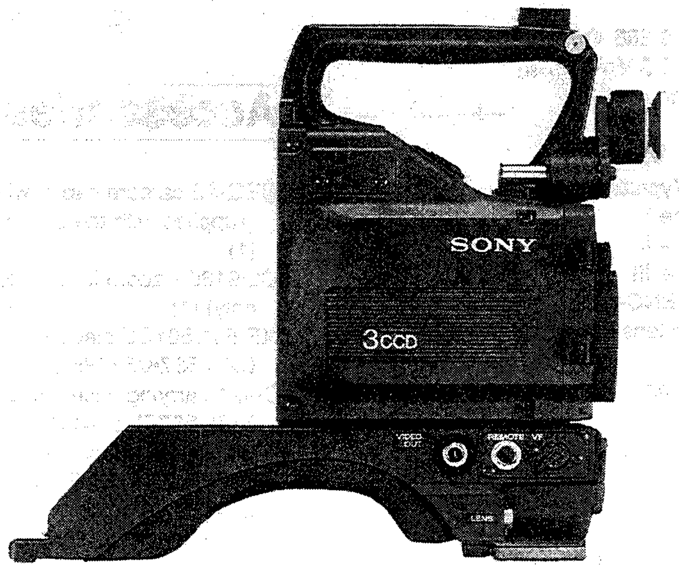
DXC-537

COLOR VIDEO CAMERA



SPECIFICATIONS

Camera Head (DXC-537/537P)

Image device	Interline-transfer CCD, 3-chip
Picture elements	768 × 493 (h/v) (NTSC) 786 × 581 (h/v) (PAL)
Sensing area	8.8 mm × 6.6 mm (equivalent to a $^{2}/_{3}$-inch pickup tube)
Built-in filters	1: 3200K 2: 5600 K + $^{1}/_{4}$ ND 3: 5600 K 4: 5600 K + $^{1}/_{16}$ ND
Lens mount	Bayonet mount
Signal system	EIA standards, NTSC color system (for DXC-537) CCIR standards, PAL color system (for DXC-537P)
Scanning system	525 lines, 2:1 interlace, 30 frames/sec. (NTSC) 625 lines, 2:1 interlace, 25 frames/sec. (PAL)
Scanning frequency	Horizontal: 15.734 kHz (NTSC) 15.625 kHz (PAL) Vertical: 59.94 Hz (NTSC) 50.00 Hz (PAL)
Sync system	Internal External with the BS or VBS signal supplied to the GEN LOCK IN connector (when the CA-537/537P, CA-325A/325AP or CA-325B is used) or the reference signal input to the VTR/CCU/CMA connector from the GEN LOCK IN connector of the CCU-M3/M3P/M7/M7P (when the CA-537/537P is used)
Horizontal resolution	700 lines (center)
Minimum illumination	13 lux with F1.8, +18 dB 7.5 lux with F1.4, +18 dB
Sensitivity	2000 lux with F8.0 (Typical) at 3200 K
Gain selection	0 dB, 9 dB or 18 dB, selectable

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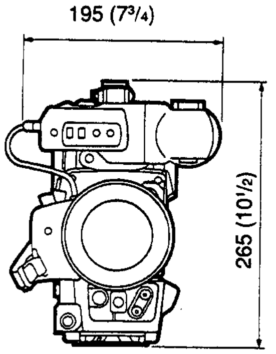
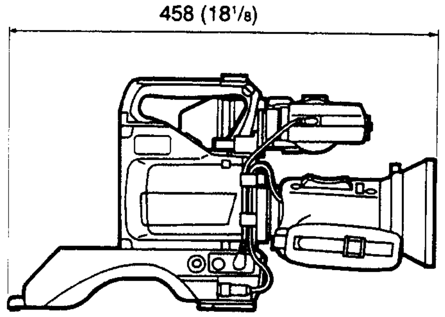
Video output	Composite signal: 1.0 Vp-p, sync negative, 75Ω unbalanced Y/C separate signal: Y: 1.0 Vp-p, sync negative, unbalanced C: burst level 0.286 Vp-p (NTSC) 0.3 Vp-p (PAL) without sync
Signal to noise ratio	62 dB (NTSC, Typical) 60 dB (PAL, Typical)
Registration	0.05% for Zone I 0.05% for Zone II 0.05% for Zone III
Inputs/Outputs	VIDEO OUT: BNC-type LENS: $^2/_3$-inch lens connector (12-pin) VF: 8-pin REMOTE: 10-pin
Power requirements	12 V DC
Power consumption	9.5 W
Operating temperature	–10°C to +45°C (14°F to 113°F)
Storage temperature	–20°C to +60°C (–4°F to 140°F)
Weight	2.2 kg (4 lb 14 oz)
Dimensions	See the illustrations below. Unit: mm (inches)

Dimensions





Carrying Case (LC-421)

Weight	About 7.7 kg (15 lb 7 oz)
Dimensions	About 790 × 440 × 340 mm (w/h/d) (31-$^1/_8$ × 17-$^3/_8$ × 13-$^1/_2$ inches)

Accessories Supplied

CCZQ-A2 camera cable (with Z-type 26-14-pin connectors) (supplied with the DXC-537K/537PK/537L/537PL only) (1)
VCL-916BY zoom lens (supplied with the DXC-537K/537PK only) (1)
DXF-501/501CE electronic viewfinder (supplied with the DXC-537K/537PK/537L/537PL only) (1)
LC-421 carrying case (supplied with the DXC-537K/537PK/537L/537PL only) (1)
VCT-14 tripod attachment (supplied with the DXC-537K/537PK/537L/537PL only) (1)
Lens cap (1)
Chart for flange focal length adjustment (1)

Design and specifications are subject to change without notice.

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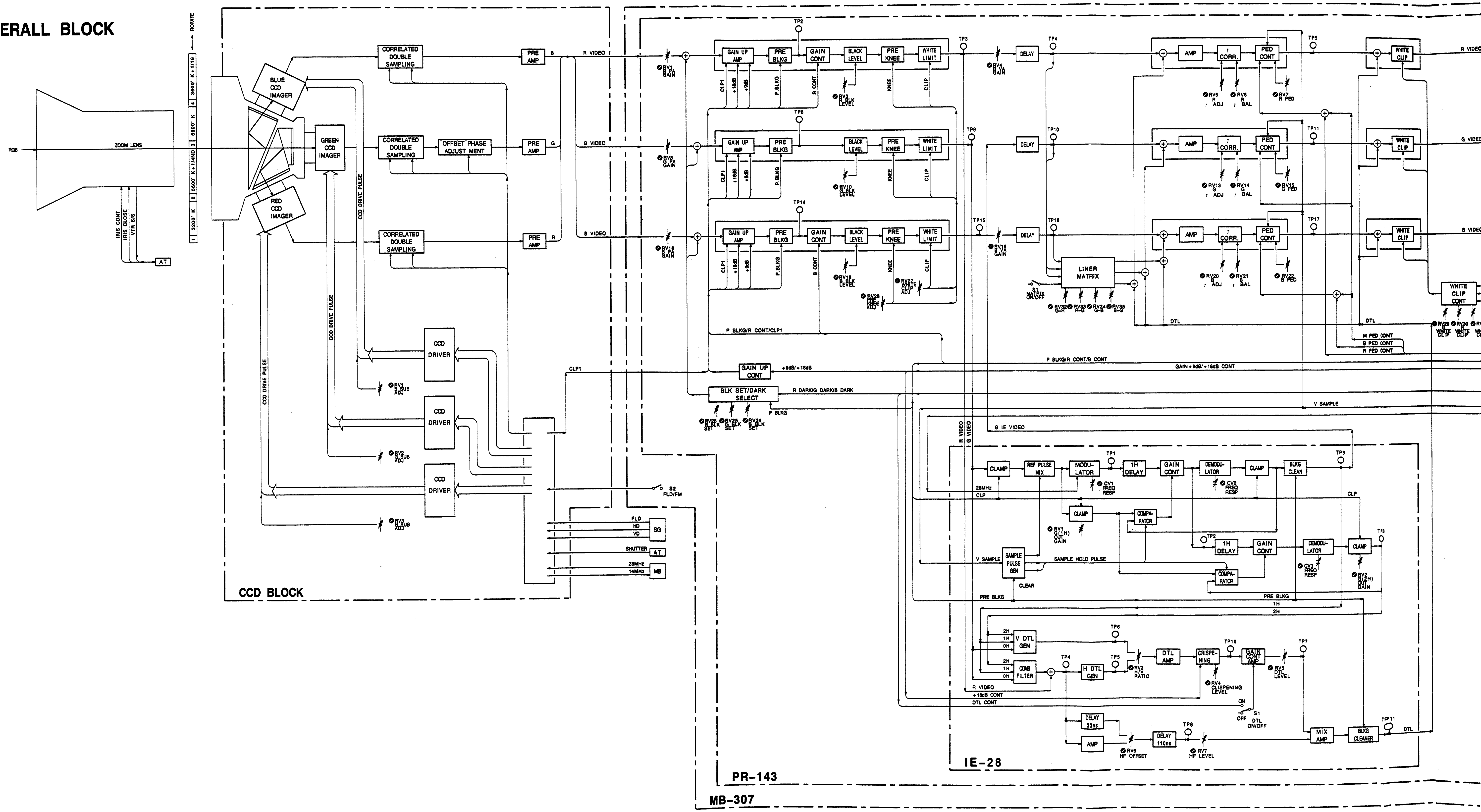
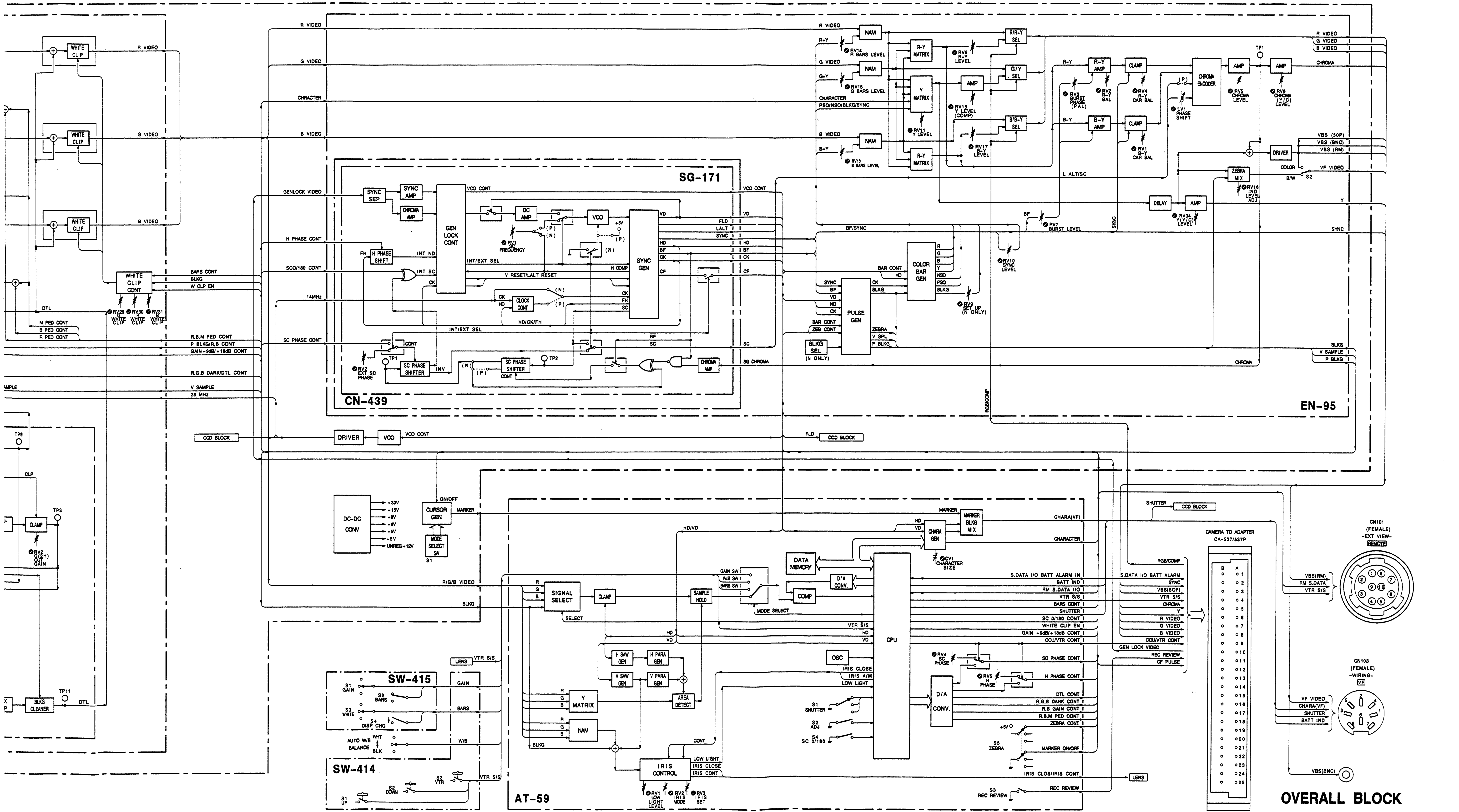
SECTION A
BLOCK DIAGRAMS

OVERALL BLOCK


RGB
ZOOM LENS
IRIS CONT
IRIS CLOSE
VTR S/S
AT
ROTATE
1 3200° K
2 5600° K+1/4ND
3 5600° K
4 3600° K+1/16
BLUE CCD IMAGER
GREEN CCD IMAGER
RED CCD IMAGER
CORRELATED DOUBLE SAMPLING
OFFSET PHASE ADJUST MENT
PRE AMP
R VIDEO
G VIDEO
B VIDEO
CCD DRIVE PULSE
CCD DRIVER
RV1 R SUB ADJ
RV2 G SUB ADJ
RV3 B SUB ADJ
CLP1
S2 FLD/FM
FLD
HD
VD
SG
SHUTTER
AT
28MHz
14MHz
MB
CCD BLOCK
TP2
GAIN UP AMP
PRE BLKG
GAIN CONT
BLACK LEVEL
PRE KNEE
WHITE LIMIT
CLP1
+18dB
+9dB
P.BLKG
R CONT
B CONT
KNEE
CLIP
RV1 R PA GAIN
RV8 G PA GAIN
RV16 B PA GAIN
RV3 R BLK LEVEL
RV10 G BLK LEVEL
RV18 B BLK LEVEL
RV27 WHITE CLIP ADJ
RV28 PRE KNEE ADJ
TP3
TP4
TP5
TP8
TP9
TP10
TP11
TP14
TP15
TP16
TP17
RV4 R IA GAIN
RV19 B IA GAIN
DELAY
LINER MATRIX
S1 MATRIX ON/OFF
RV32 G-R
RV33 R-G
RV34 G-B
RV35 B-G
AMP
γ CORR.
PED CONT
RV5 R γ ADJ
RV6 R γ BAL
RV7 R PED
RV13 G γ ADJ
RV14 G γ BAL
RV15 G PED
RV20 B γ ADJ
RV21 B γ BAL
RV22 B PED
WHITE CLIP
WHITE CLIP CONT
RV29 WHITE CLIP
RV30 WHITE CLIP
R VIDEO
G VIDEO
B VIDEO
DTL
M PED CONT
B PED CONT
R PED CONT
P BLKG/R CONT/CLP1
P BLKG/R CONT/B CONT
GAIN UP CONT
+9dB/+18dB
GAIN+9dB/+18dB CONT
BLK SET/DARK SELECT
R DARK/G DARK/B DARK
P BLKG
RV26 R BLK SET
RV25 G BLK SET
RV24 B BLK SET
V SAMPLE
G IE VIDEO
R VIDEO
G VIDEO
TP1
CLAMP
REF PULSE MIX
MODU-LATOR
1H DELAY
GAIN CONT
DEMODU-LATOR
BLKG CLEAN
CV1 FREQ RESP
CV2 FREQ RESP
28MHz
CLP
COMPA-RATOR
RV1 G(1H) OUT GAIN
TP2
TP3
CV3 FREQ RESP
RV2 G(2H) OUT GAIN
V SAMPLE
SAMPLE PULSE GEN
SAMPLE HOLD PULSE
CLEAR
PRE BLKG
1H
2H
0H
V DTL GEN
COMB FILTER
H DTL GEN
TP4
TP5
TP6
TP7
TP8
TP10
TP11
DTL AMP
CRISPE-NING
GAIN CONT AMP
RV3 H/V RATIO
RV4 CLISPENING LEVEL
RV5 DTL LEVEL
R VIDEO
+18dB CONT
DTL CONT
S1 DTL ON/OFF
ON
OFF
DELAY 33ns
AMP
DELAY 110ns
RV6 HF OFFSET
RV7 HF LEVEL
MIX AMP
BLKG CLEANER
DTL
IE-28
PR-143
MB-307

DXC-537 (J,UC)
DXC-537P(EK)

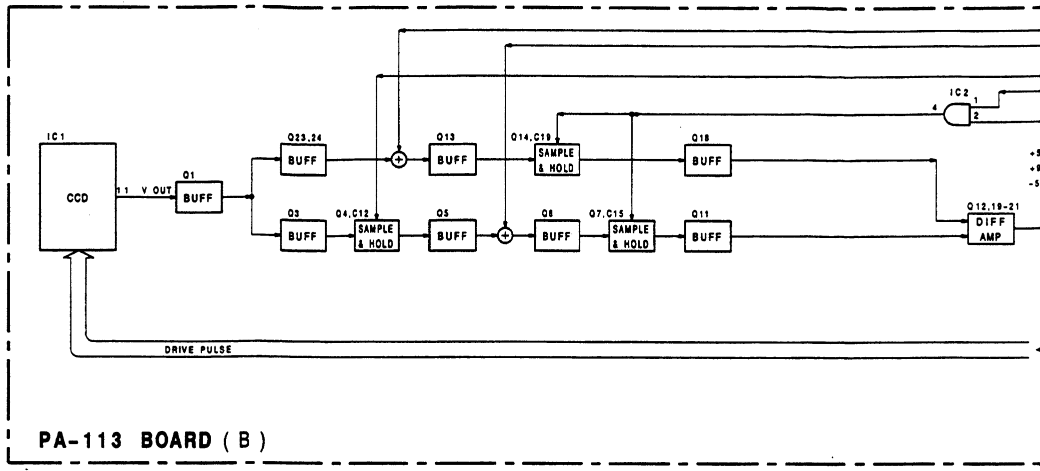

1
2
3
4
5
WHITE CLIP
R VIDEO
G VIDEO
B VIDEO
WHITE CLIP CONT
BARS CONT
BLKG
W CLP EN
DTL
RV29 R WHITE CLIP
RV30 G WHITE CLIP
RV31 B WHITE CLIP
M PED CONT
B PED CONT
R PED CONT
R,B,M PED CONT
P BLKG/R,B CONT
GAIN +9dB/+18dB CONT
R,G,B DARK/DTL CONT
V SAMPLE
28 MHz
CHRACTER
GENLOCK VIDEO
H PHASE CONT
SCO/180 CONT
14MHz
SC PHASE CONT
SG-171
CN-439
SYNC SEP
SYNC AMP
CHROMA AMP
GEN LOCK CONT
VCO CONT
DC AMP
VCO
RV1 SC FREQUENCY
SYNC GEN
H PHASE SHIFT
INT ND
INT/EXT SEL
INT SC
V RESET/LALT RESET
H COMP
CLOCK CONT
HD/CK/FH
SC PHASE SHIFTER
RV2 EXT SC PHASE
TP1
TP2
CHROMA AMP
SC CHROMA
VD
FLD
LALT
SYNC
HD
BF
CK
CF
SC
CCD BLOCK
DRIVER
VCO
EN-95
NAM
R-Y MATRIX
Y MATRIX
B-Y MATRIX
RV14 R BARS LEVEL
RV15 G BARS LEVEL
RV13 B BARS LEVEL
RV8 R-Y LEVEL
RV18 Y LEVEL (COMP)
RV11 Y LEVEL
RV17 B-Y LEVEL
R/R-Y SEL
G/Y SEL
B/B-Y SEL
CHARACTER
PSO/NSO/BLKG/SYNC
R-Y AMP
B-Y AMP
CLAMP
CHROMA ENCODER
AMP
RV3 BURST PHASE (PAL)
RV2 R-Y BAL
RV4 R-Y CAR BAL
RV1 B-Y BAL
RV1 B-Y CAR BAL
LV1 PHASE SHIFT
RV5 CHROMA LEVEL
RV6 CHROMA (Y/C) LEVEL
TP1
CHROMA
VBS (50P)
VBS (BNC)
VBS (RM)
DRIVER
ZEBRA MIX
RV16 IND LEVEL ADJ
COLOR
B/W
S2
VF VIDEO
L ALT/SC
DELAY
RV34 Y (Y/C) LEVEL
Y
BF
RV7 BURST LEVEL
BF/SYNC
SYNC
RV10 SYNC LEVEL
COLOR BAR GEN
BAR CONT
PULSE GEN
ZEBRA
V SPL
P BLKG
BAR CONT
ZEB CONT
BLKG SEL (N ONLY)
RV9 SET UP (N ONLY)
NSO
PSO
RGB/COMP
V SAMPLE
FLD
DC-DC CONV
+30V
+15V
+9V
+6V
+5V
-5V
UNREG+12V
CURSOR GEN
ON/OFF
MARKER
MODE SELECT SW
S1
AT-59
R/G/B VIDEO
SIGNAL SELECT
CLAMP
SAMPLE HOLD
GAIN SW
W/B SW
BARS SW
MODE SELECT
COMP
D/A CONV.
DATA MEMORY
CHARA GEN
RV1 CHARACTER SIZE
MARKER BLKG MIX
CPU
OSC
H SAW GEN
H PARA GEN
V SAW GEN
V PARA GEN
AREA DETECT
Y MATRIX
NAM
IRIS CONTROL
RV1 LOW LIGHT LEVEL
RV2 IRIS MODE
RV3 IRIS SET
HD/VD
VTR S/S
IRIS CLOSE
IRIS A/M
LOW LIGHT
S1 SHUTTER
S2 ADJ
S4 SC 0/180
RV4 SC PHASE
RV5 H PHASE
S5 ZEBRA
S3 REC REVIEW
LENS
SW-415
S1 GAIN
S2 BARS
S3 WHITE
S4 DISP CHG
AUTO W/B BALANCE WHT BLK
SW-414
S1 UP
S2 DOWN
S3 VTR
SHUTTER
CHARA(VF)
S.DATA I/O BATT ALARM IN
BATT IND
RM S.DATA I/O
VTR S/S
BARS CONT
SHUTTER
SC 0/180 CONT
WHITE CLIP EN
GAIN +9dB/+18dB CONT
CCU/VTR CONT
SC PHASE CONT
H PHASE CONT
DTL CONT
R,G,B DARK CONT
R,B GAIN CONT
R,B,M PED CONT
ZEBRA CONT
MARKER ON/OFF
IRIS CLOS/IRIS CONT
REC REVIEW
GEN LOCK VIDEO
CF PULSE
CAMERA TO ADAPTER CA-537/537P
CN101 (FEMALE) -EXT VIEW- REMOTE
VBS(RM)
RM S.DATA
CN103 (FEMALE) -WIRING- VF
VBS(BNC)
TP3
TP9
TP11
CLP
CLAMP
RV2 G(2H) CH GAIN
BLKG CLEANER

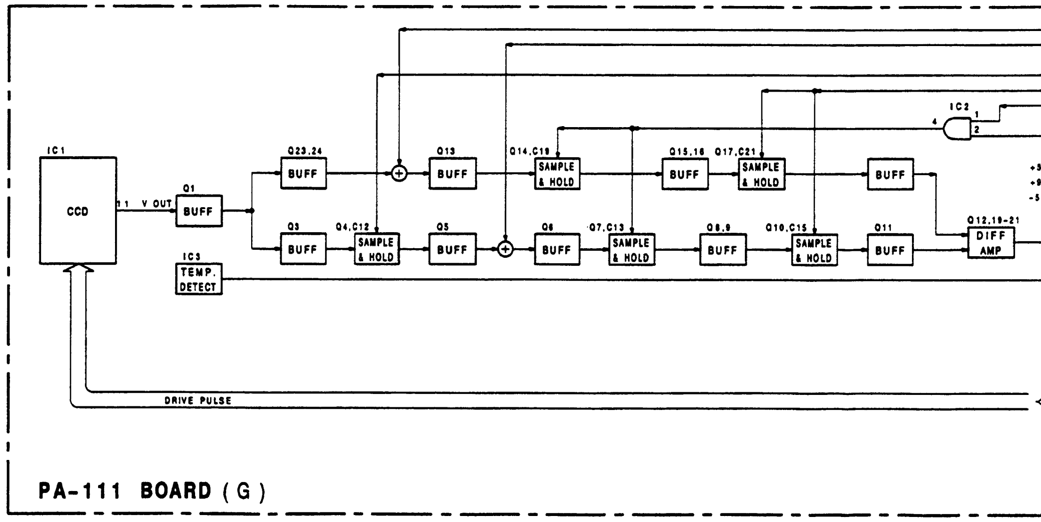
OVERALL BLOCK

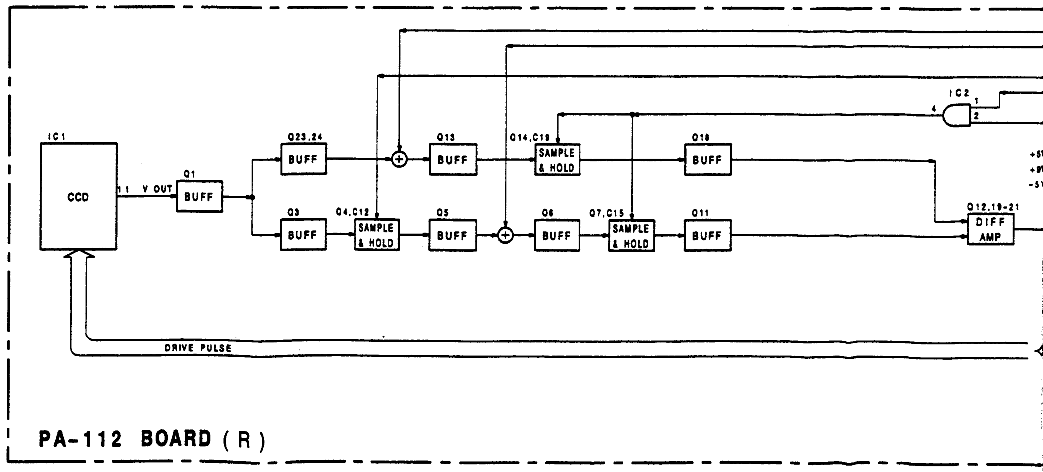
DXC-537 (J,UC)
DXC-537P(EK)
DXC-537M(J)

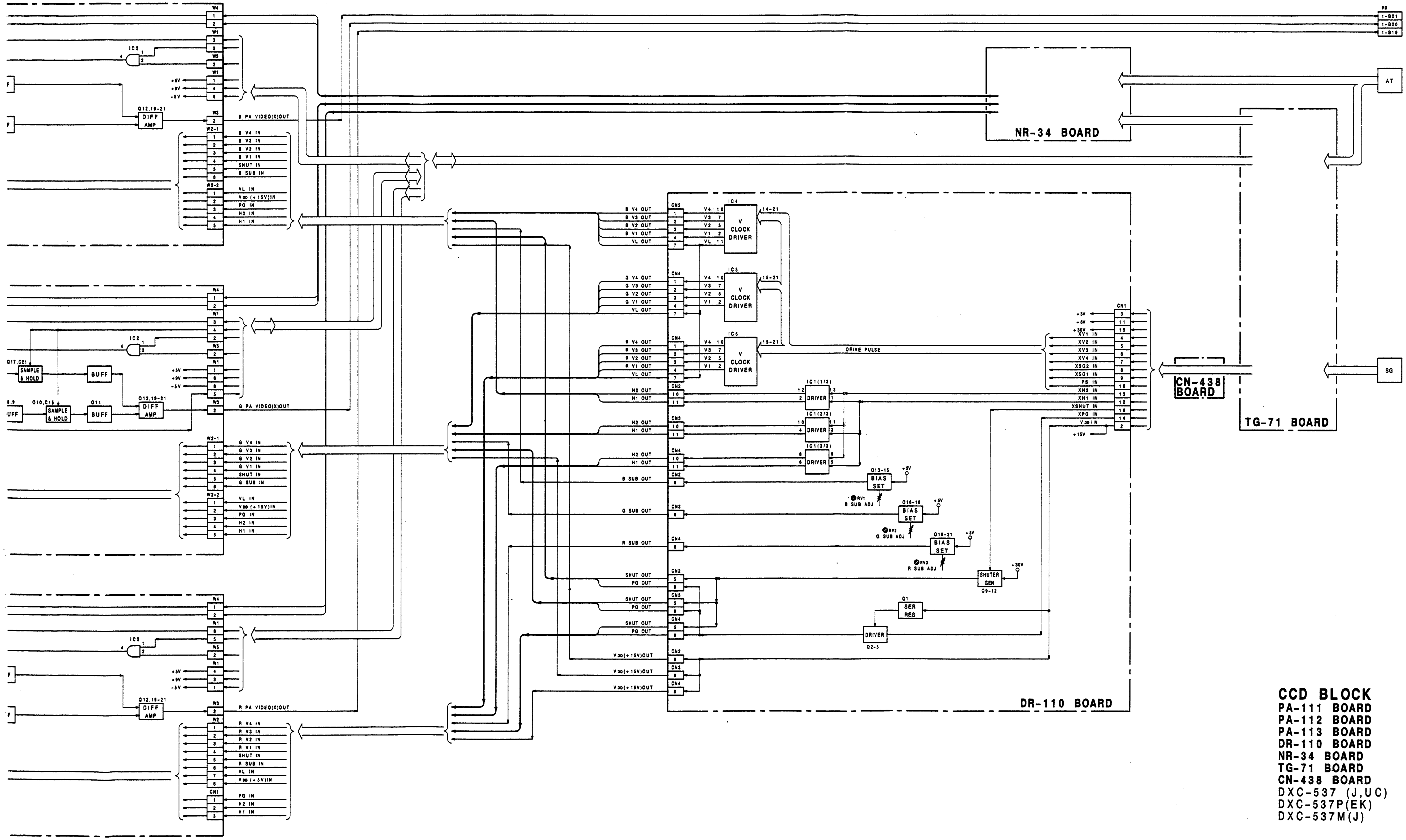
B-DXC537-OABLOCK/M

CCD BLOCK


IC1
CCD
11 V OUT
Q1
BUFF
Q23,24
BUFF
Q3
BUFF
Q4,C12
SAMPLE & HOLD
Q13
BUFF
Q5
BUFF
Q14,C19
SAMPLE & HOLD
Q6
BUFF
Q7,C15
SAMPLE & HOLD
Q18
BUFF
Q11
BUFF
IC2
4
1
2
Q12,19-21
DIFF AMP
DRIVE PULSE
PA-113 BOARD (B)

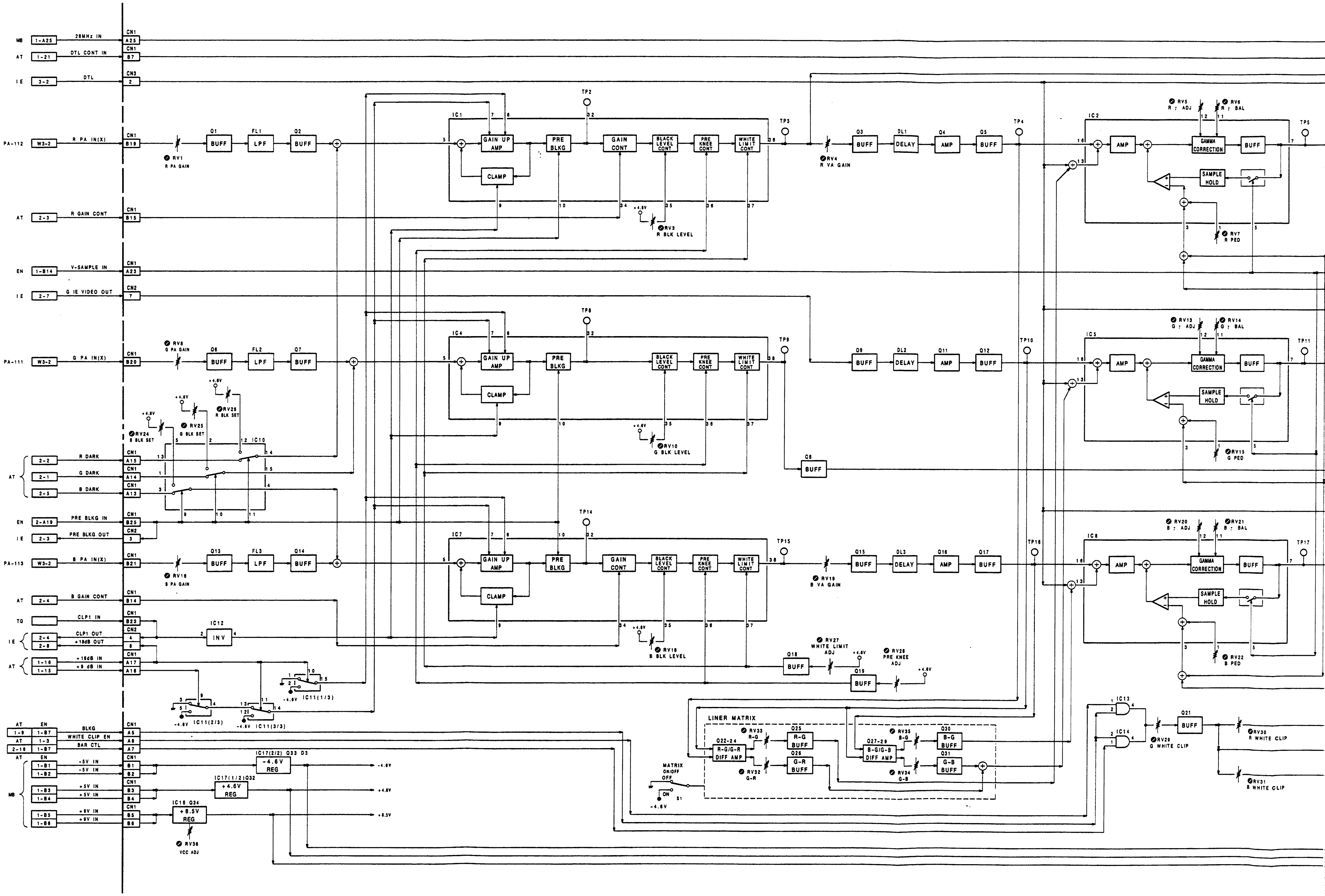

IC1
CCD
11 V OUT
Q1
BUFF
IC3
TEMP. DETECT
Q23,24
BUFF
Q3
BUFF
Q4,C12
SAMPLE & HOLD
Q13
BUFF
Q5
BUFF
Q14,C19
SAMPLE & HOLD
Q6
BUFF
Q7,C13
SAMPLE & HOLD
Q15,16
BUFF
Q17,C21
SAMPLE & HOLD
Q8,9
BUFF
Q10,C15
SAMPLE & HOLD
BUFF
Q11
BUFF
IC2
4
1
2
Q12,19-21
DIFF AMP
DRIVE PULSE
PA-111 BOARD (G)

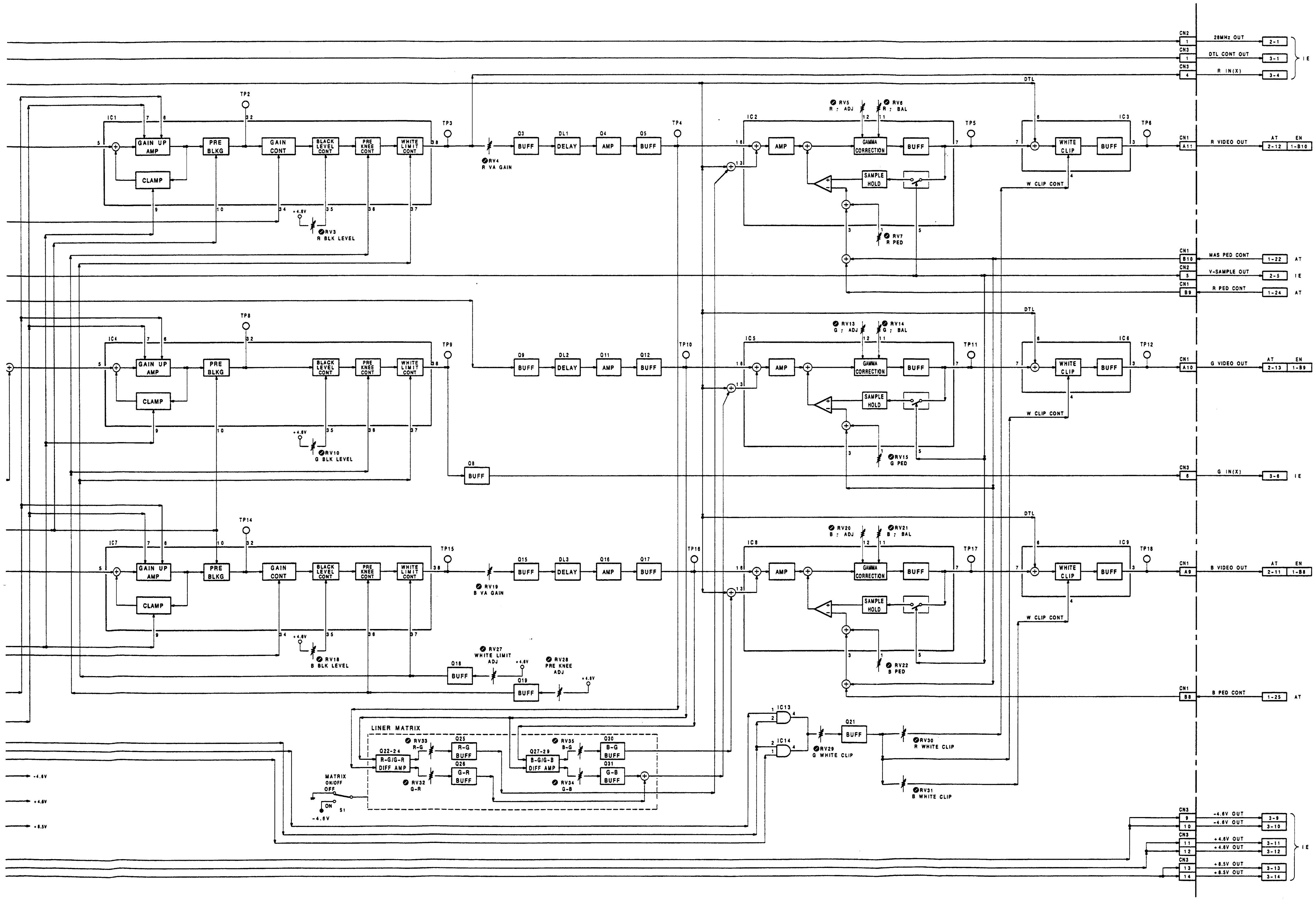

IC1
CCD
11 V OUT
Q1
BUFF
Q23,24
BUFF
Q3
BUFF
Q4,C12
SAMPLE & HOLD
Q13
BUFF
Q5
BUFF
Q14,C19
SAMPLE & HOLD
Q6
BUFF
Q7,C15
SAMPLE & HOLD
Q18
BUFF
Q11
BUFF
IC2
4
1
2
Q12,19-21
DIFF AMP
DRIVE PULSE
PA-112 BOARD (R)


NR-34 BOARD
DR-110 BOARD
TG-71 BOARD
CN-438 BOARD
AT
SG
PR
1-B21
1-B20
1-B19
IC4
V CLOCK DRIVER
IC5
V CLOCK DRIVER
IC6
V CLOCK DRIVER
IC1(1/3) DRIVER
IC1(2/3) DRIVER
IC1(3/3) DRIVER
Q13-15 BIAS SET
Q16-18 BIAS SET
Q19-21 BIAS SET
RV1 B SUB ADJ
RV2 G SUB ADJ
RV3 R SUB ADJ
SHUTER GEN Q9-12
Q1 SER REG
DRIVER Q2-5
DRIVE PULSE
B PA VIDEO(X)OUT
G PA VIDEO(X)OUT
R PA VIDEO(X)OUT
IC2
Q12,19-21 DIFF AMP
SAMPLE & HOLD
BUFF
Q11
B V4 OUT
B V3 OUT
B V2 OUT
B V1 OUT
VL OUT
G V4 OUT
G V3 OUT
G V2 OUT
G V1 OUT
R V4 OUT
R V3 OUT
R V2 OUT
R V1 OUT
H2 OUT
H1 OUT
B SUB OUT
G SUB OUT
R SUB OUT
SHUT OUT
PG OUT
VDD(+15V)OUT
XV1 IN
XV2 IN
XV3 IN
XV4 IN
XSG2 IN
XSG1 IN
PS IN
XH2 IN
XH1 IN
XSHUT IN
XPG IN
VDD IN
+5V
+9V
-5V
+30V
+15V
SHUT IN
VL IN
VDD(+15V)IN
PG IN
H2 IN
H1 IN

CCD BLOCK
PA-111 BOARD
PA-112 BOARD
PA-113 BOARD
DR-110 BOARD
NR-34 BOARD
TG-71 BOARD
CN-438 BOARD
DXC-537 (J,UC)
DXC-537P(EK)
DXC-537M(J)

PR-143 BLOCK

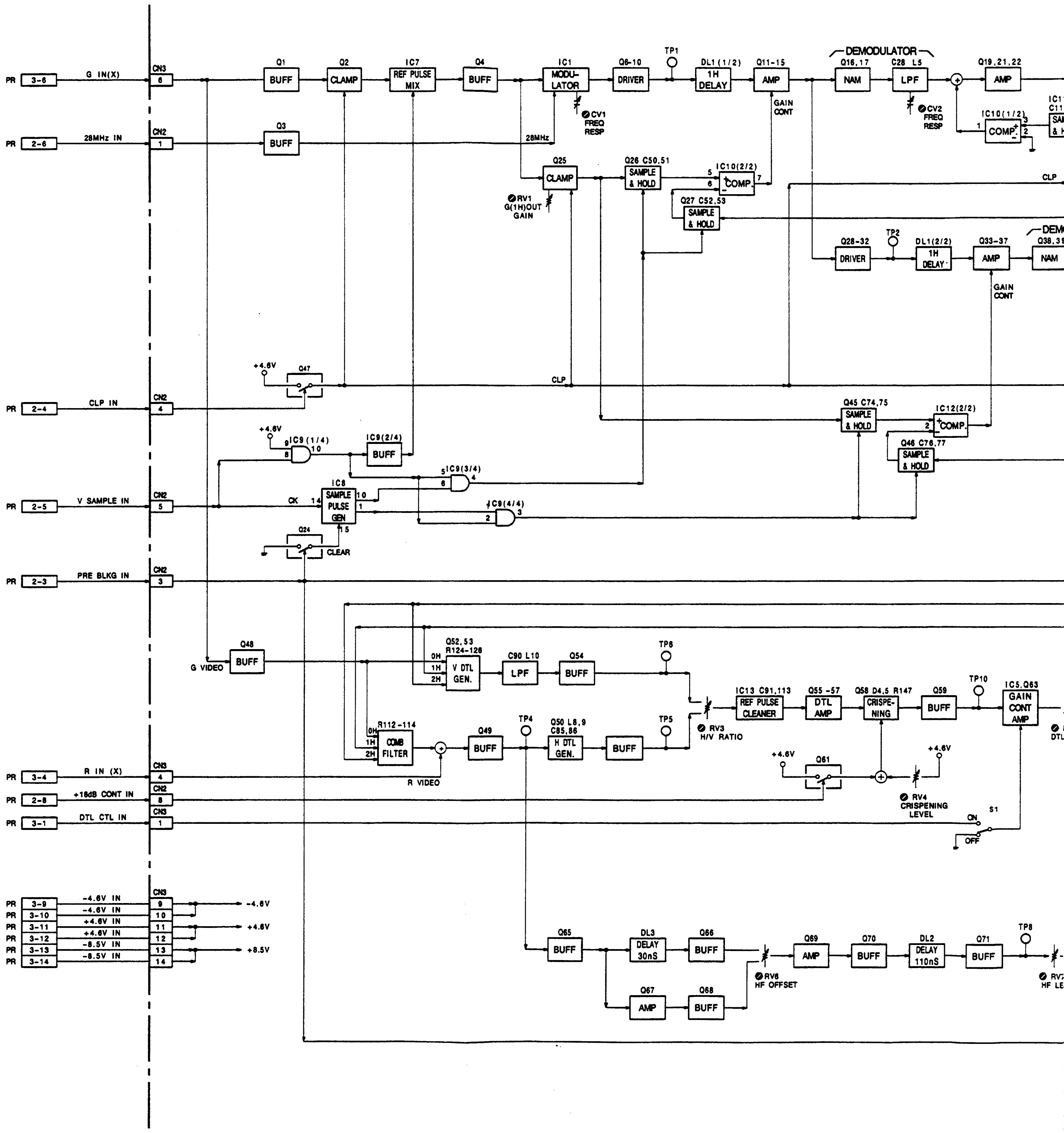

28MHz IN
DTL CONT IN
DTL
R PA IN(X)
R GAIN CONT
V-SAMPLE IN
G IE VIDEO OUT
G PA IN(X)
R DARK
G DARK
B DARK
PRE BLKG IN
PRE BLKG OUT
B PA IN(X)
B GAIN CONT
CLP1 IN
CLP1 OUT
+18dB OUT
+18dB IN
+9 dB IN
BLKG
WHITE CLIP EN
BAR CTL
-5V IN
+5V IN
+9V IN
MB
AT
IE
EN
TG
PA-112
PA-111
PA-113
CN1
CN2
CN3
BUFF
LPF
GAIN UP AMP
CLAMP
PRE BLKG
GAIN CONT
BLACK LEVEL CONT
PRE KNEE CONT
WHITE LIMIT CONT
DELAY
AMP
GAMMA CORRECTION
SAMPLE HOLD
INV
RV1 R PA GAIN
RV3 R BLK LEVEL
RV4 R VA GAIN
RV5 R γ ADJ
RV6 R γ BAL
RV7 R PED
RV8 G PA GAIN
RV10 G BLK LEVEL
RV13 G γ ADJ
RV14 G γ BAL
RV15 G PED
RV16 B PA GAIN
RV18 B BLK LEVEL
RV19 B VA GAIN
RV20 B γ ADJ
RV21 B γ BAL
RV22 B PED
RV24 B BLK SET
RV25 G BLK SET
RV26 R BLK SET
RV27 WHITE LIMIT ADJ
RV28 PRE KNEE ADJ
RV29 G WHITE CLIP
RV30 R WHITE CLIP
RV31 B WHITE CLIP
RV32 G-R
RV33 R-G
RV34 G-B
RV35 B-G
RV36 VCC ADJ
LINER MATRIX
Q22-24 R-G/G-R DIFF AMP
Q27-29 B-G/G-B DIFF AMP
R-G BUFF
G-R BUFF
B-G BUFF
G-B BUFF
MATRIX ON/OFF
OFF
ON
S1
IC1
IC2
IC4
IC5
IC7
IC8
IC10
IC11(1/3)
IC11(2/3)
IC11(3/3)
IC12
IC13
IC14
IC17(2/2) Q33 D3 -4.6V REG
IC17(1/2)Q32 +4.6V REG
IC16 Q34 +8.5V REG
TP2
TP3
TP4
TP5
TP8
TP9
TP10
TP11
TP14
TP15
TP16
TP17
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
Q11
Q12
Q13
Q14
Q15
Q16
Q17
Q18
Q19
Q21
Q25
Q26
Q30
Q31
FL1
FL2
FL3
DL1
DL2
DL3
+4.6V
-4.6V
+8.5V


CN2
1
28MHz OUT
2-1
CN3
1
DTL CONT OUT
3-1
CN3
4
R IN(X)
3-4
IE
DTL
TP2
IC1
GAIN UP AMP
CLAMP
PRE BLKG
GAIN CONT
BLACK LEVEL CONT
PRE KNEE CONT
WHITE LIMIT CONT
+4.6V
RV3
R BLK LEVEL
TP3
RV4
R VA GAIN
Q3
BUFF
DL1
DELAY
Q4
AMP
Q5
BUFF
TP4
RV5
R γ ADJ
RV6
R γ BAL
IC2
AMP
GAMMA CORRECTION
BUFF
SAMPLE HOLD
RV7
R PED
TP5
IC3
TP6
WHITE CLIP
BUFF
W CLIP CONT
CN1
A11
R VIDEO OUT
AT
EN
2-12
1-B10
CN1
B10
MAS PED CONT
1-22
AT
CN2
5
V-SAMPLE OUT
2-5
IE
CN1
B9
R PED CONT
1-24
AT
TP8
IC4
GAIN UP AMP
CLAMP
PRE BLKG
BLACK LEVEL CONT
PRE KNEE CONT
WHITE LIMIT CONT
+4.6V
RV10
G BLK LEVEL
TP9
Q9
BUFF
DL2
DELAY
Q11
AMP
Q12
BUFF
TP10
RV13
G γ ADJ
RV14
G γ BAL
IC5
AMP
GAMMA CORRECTION
BUFF
SAMPLE HOLD
RV15
G PED
TP11
IC6
TP12
WHITE CLIP
BUFF
W CLIP CONT
CN1
A10
G VIDEO OUT
AT
EN
2-13
1-B9
Q8
BUFF
CN3
6
G IN(X)
3-6
IE
TP14
IC7
GAIN UP AMP
CLAMP
PRE BLKG
GAIN CONT
BLACK LEVEL CONT
PRE KNEE CONT
WHITE LIMIT CONT
+4.6V
RV18
B BLK LEVEL
TP15
RV19
B VA GAIN
Q15
BUFF
DL3
DELAY
Q16
AMP
Q17
BUFF
TP16
RV20
B γ ADJ
RV21
B γ BAL
IC8
AMP
GAMMA CORRECTION
BUFF
SAMPLE HOLD
RV22
B PED
TP17
IC9
TP18
WHITE CLIP
BUFF
W CLIP CONT
CN1
A9
B VIDEO OUT
AT
EN
2-11
1-B8
CN1
B8
B PED CONT
1-25
AT
Q18
BUFF
RV27
WHITE LIMIT ADJ
+4.6V
Q19
BUFF
RV28
PRE KNEE ADJ
+4.6V
IC13
IC14
RV29
G WHITE CLIP
Q21
BUFF
RV30
R WHITE CLIP
RV31
B WHITE CLIP
LINER MATRIX
Q22-24
R-G/G-R DIFF AMP
RV33
R-G
Q25
R-G BUFF
Q26
G-R BUFF
RV32
G-R
Q27-29
B-G/G-B DIFF AMP
RV35
B-G
Q30
B-G BUFF
Q31
G-B BUFF
RV34
G-B
MATRIX ON/OFF
OFF
ON
S1
-4.6V
-4.6V
+4.6V
+8.5V
CN3
9
10
-4.6V OUT
-4.6V OUT
3-9
3-10
CN3
11
12
+4.6V OUT
+4.6V OUT
3-11
3-12
CN3
13
14
+8.5V OUT
+8.5V OUT
3-13
3-14
IE
1
2
3
4
5

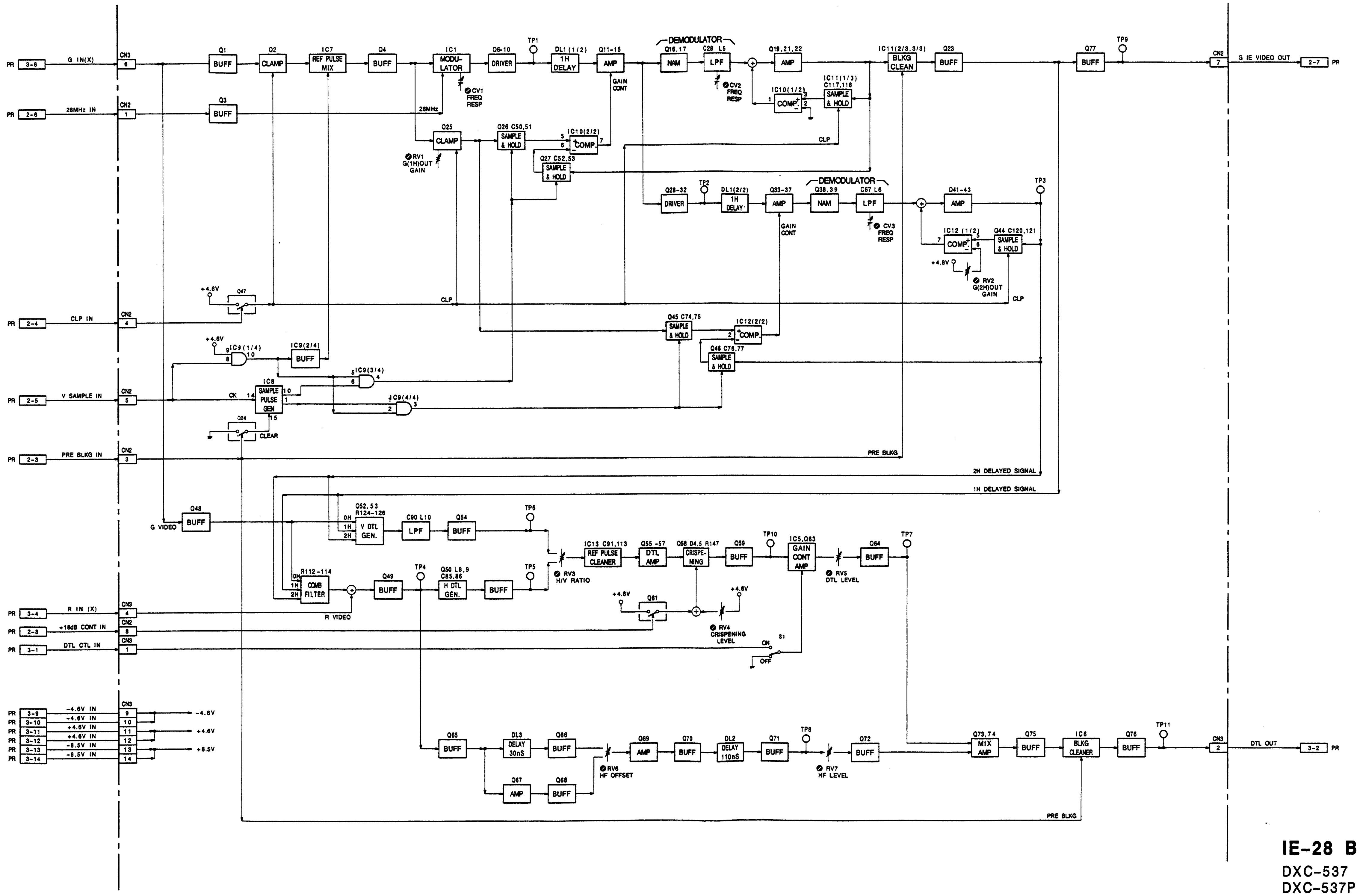
PR-143 BLOCK

DXC-537 (J,UC)
DXC-537P (EK)
DXC-537M(J)

IE-28 BLOCK


PR 3-6
G IN(X)
CN3 6
PR 2-6
28MHz IN
CN2 1
Q1 BUFF
Q2 CLAMP
IC7 REF PULSE MIX
Q4 BUFF
Q3 BUFF
IC1 MODU-LATOR
CV1 FREQ RESP
28MHz
Q6-10 DRIVER
TP1
DL1(1/2) 1H DELAY
Q11-15 AMP
GAIN CONT
DEMODULATOR
Q16,17 NAM
C28 L5 LPF
CV2 FREQ RESP
Q19,21,22 AMP
IC10(1/2) COMP
Q25 CLAMP
RV1 G(1H)OUT GAIN
Q26 C50,51 SAMPLE & HOLD
IC10(2/2) COMP
Q27 C52,53 SAMPLE & HOLD
CLP
Q28-32 DRIVER
TP2
DL1(2/2) 1H DELAY
Q33-37 AMP
GAIN CONT
Q38,39 NAM
+4.6V
Q47
CLP
PR 2-4
CLP IN
CN2 4
Q45 C74,75 SAMPLE & HOLD
IC12(2/2) COMP
Q46 C76,77 SAMPLE & HOLD
+4.6V
IC9(1/4)
IC9(2/4) BUFF
IC9(3/4)
IC8 SAMPLE PULSE GEN
CK
IC9(4/4)
PR 2-5
V SAMPLE IN
CN2 5
Q24
CLEAR
PR 2-3
PRE BLKG IN
CN2 3
Q48 BUFF
G VIDEO
Q52,53 R124-126
0H 1H 2H
V DTL GEN.
C90 L10 LPF
Q54 BUFF
TP6
R112-114
COMB FILTER
R VIDEO
Q49 BUFF
TP4
Q50 L8,9 C85,86 H DTL GEN.
BUFF
TP5
RV3 H/V RATIO
IC13 C91,113 REF PULSE CLEANER
Q55-57 DTL AMP
Q58 D4,5 R147 CRISPE-NING
Q59 BUFF
TP10
IC5,Q63 GAIN CONT AMP
+4.6V
Q61
+4.6V
RV4 CRISPENING LEVEL
S1
ON
OFF
PR 3-4
R IN (X)
CN3 4
PR 2-8
+18dB CONT IN
CN2 8
PR 3-1
DTL CTL IN
CN3 1
CN3
PR 3-9 -4.6V IN 9
PR 3-10 -4.6V IN 10
PR 3-11 +4.6V IN 11
PR 3-12 +4.6V IN 12
PR 3-13 -8.5V IN 13
PR 3-14 -8.5V IN 14
-4.6V
+4.6V
+8.5V
Q65 BUFF
DL3 DELAY 30nS
Q66 BUFF
Q67 AMP
Q68 BUFF
RV6 HF OFFSET
Q69 AMP
Q70 BUFF
DL2 DELAY 110nS
Q71 BUFF
TP8

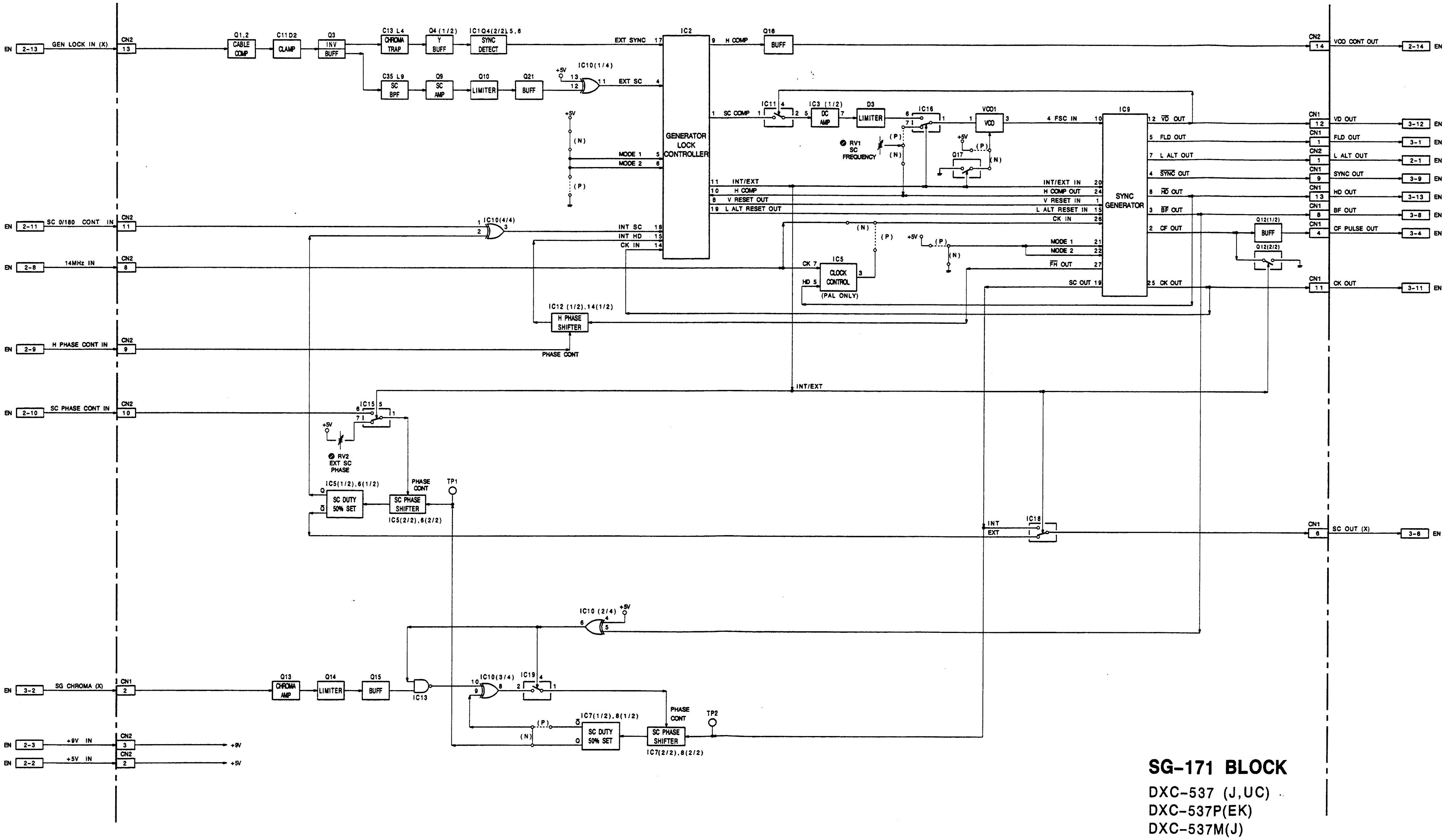
IE-28 BLOCK


PR 3-6 G IN(X) CN3 6
PR 2-6 28MHz IN CN2 1
Q1 BUFF
Q2 CLAMP
IC7 REF PULSE MIX
Q4 BUFF
IC1 MODU-LATOR
CV1 FREQ RESP
Q6-10 DRIVER
TP1
DL1(1/2) 1H DELAY
Q11-15 AMP
GAIN CONT
DEMODULATOR
Q16,17 NAM
C28 L5 LPF
CV2 FREQ RESP
Q19,21,22 AMP
IC10(1/2) COMP
IC11(1/3) C117,118 SAMPLE & HOLD
IC11(2/3,3/3) BLKG CLEAN
Q23 BUFF
Q77 BUFF
TP9
CN2 7 G IE VIDEO OUT 2-7 PR
Q3 BUFF
28MHz
Q25 CLAMP
RV1 G(1H)OUT GAIN
Q26 C50,51 SAMPLE & HOLD
IC10(2/2) COMP
Q27 C52,53 SAMPLE & HOLD
CLP
Q28-32 DRIVER
TP2
DL1(2/2) 1H DELAY
Q33-37 AMP
GAIN CONT
DEMODULATOR
Q38,39 NAM
C67 L6 LPF
CV3 FREQ RESP
Q41-43 AMP
TP3
IC12(1/2) COMP
Q44 C120,121 SAMPLE & HOLD
+4.6V
RV2 G(2H)OUT GAIN
CLP
+4.6V Q47
CLP
PR 2-4 CLP IN CN2 4
Q45 C74,75 SAMPLE & HOLD
IC12(2/2) COMP
Q46 C76,77 SAMPLE & HOLD
+4.6V
IC9(1/4)
IC9(2/4) BUFF
IC9(3/4)
IC8 SAMPLE PULSE GEN
CK
IC9(4/4)
PR 2-5 V SAMPLE IN CN2 5
Q24 CLEAR
PR 2-3 PRE BLKG IN CN2 3
PRE BLKG
2H DELAYED SIGNAL
1H DELAYED SIGNAL
Q48 BUFF G VIDEO
Q52,53 R124-126 0H 1H 2H V DTL GEN.
C90 L10 LPF
Q54 BUFF
TP6
RV3 H/V RATIO
IC13 C91,113 REF PULSE CLEANER
Q55-57 DTL AMP
Q58 D4,5 R147 CRISPE-NING
Q59 BUFF
TP10
IC5,Q63 GAIN CONT AMP
RV5 DTL LEVEL
Q64 BUFF
TP7
R112-114 0H 1H 2H COMB FILTER
R VIDEO
Q49 BUFF
TP4
Q50 L8,9 C85,86 H DTL GEN.
BUFF
TP5
+4.6V Q61
+4.6V
RV4 CRISPENING LEVEL
ON S1 OFF
PR 3-4 R IN (X) CN3 4
PR 2-8 +18dB CONT IN CN2 8
PR 3-1 DTL CTL IN CN3 1
PR 3-9 -4.6V IN 9
PR 3-10 -4.6V IN 10
PR 3-11 +4.6V IN 11
PR 3-12 +4.6V IN 12
PR 3-13 -8.5V IN 13
PR 3-14 -8.5V IN 14
-4.6V
+4.6V
+8.5V
Q65 BUFF
DL3 DELAY 30nS
Q66 BUFF
RV6 HF OFFSET
Q67 AMP
Q68 BUFF
Q69 AMP
Q70 BUFF
DL2 DELAY 110nS
Q71 BUFF
TP8
RV7 HF LEVEL
Q72 BUFF
Q73,74 MIX AMP
Q75 BUFF
IC6 BLKG CLEANER
Q76 BUFF
TP11
CN3 2 DTL OUT 3-2 PR
PRE BLKG

IE-28 BLOCK

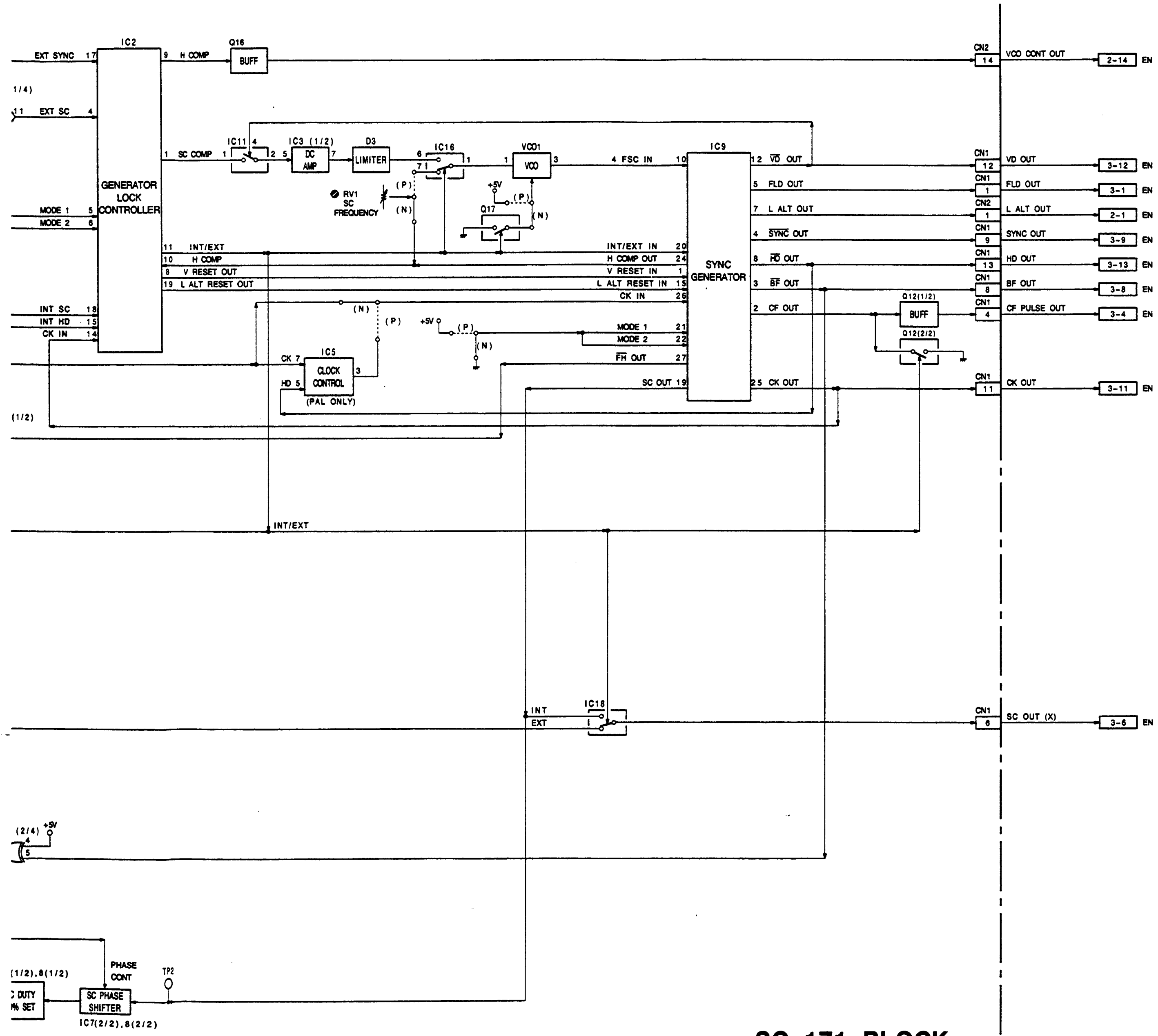
DXC-537 (J,UC)
DXC-537P(EK)
DXC-537M(J)

SG-171 BLOCK


EN 2-13 GEN LOCK IN (X) CN2 13
Q1,2 CABLE COMP
C11 D2 CLAMP
Q3 INV BUFF
C13 L4 CHROMA TRAP
Q4 (1/2) Y BUFF
IC1 Q4(2/2),5,6 SYNC DETECT
EXT SYNC 17
C35 L9 SC BPF
Q9 SC AMP
Q10 LIMITER
Q21 BUFF
IC10(1/4)
EXT SC 4
IC2 GENERATOR LOCK CONTROLLER
MODE 1 5
MODE 2 6
+5V (N) (P)
9 H COMP
Q16 BUFF
1 SC COMP
IC11
IC3 (1/2) DC AMP
D3 LIMITER
IC16
VCO1 VCO
4 FSC IN 10
RV1 SC FREQUENCY
Q17
IC9 SYNC GENERATOR
11 INT/EXT
10 H COMP
8 V RESET OUT
19 L ALT RESET OUT
INT/EXT IN 20
H COMP OUT 24
V RESET IN 1
L ALT RESET IN 15
CK IN 26
MODE 1 21
MODE 2 22
FH OUT 27
SC OUT 19
12 VD OUT
5 FLD OUT
7 L ALT OUT
4 SYNC OUT
8 HD OUT
3 BF OUT
2 CF OUT
25 CK OUT
Q12(1/2) BUFF
Q12(2/2)
CN2 14 VCO CONT OUT 2-14 EN
CN1 12 VD OUT 3-12 EN
CN1 1 FLD OUT 3-1 EN
CN2 1 L ALT OUT 2-1 EN
CN1 9 SYNC OUT 3-9 EN
CN1 13 HD OUT 3-13 EN
CN1 8 BF OUT 3-8 EN
CN1 4 CF PULSE OUT 3-4 EN
CN1 11 CK OUT 3-11 EN
EN 2-11 SC 0/180 CONT IN CN2 11
IC10(4/4)
INT SC 18
INT HD 15
CK IN 14
EN 2-8 14MHz IN CN2 8
CK 7 HD 5 IC5 CLOCK CONTROL (PAL ONLY)
IC12 (1/2),14(1/2) H PHASE SHIFTER
PHASE CONT
EN 2-9 H PHASE CONT IN CN2 9
INT/EXT
EN 2-10 SC PHASE CONT IN CN2 10
IC15
RV2 EXT SC PHASE
IC5(1/2),6(1/2) SC DUTY 50% SET
SC PHASE SHIFTER IC5(2/2),6(2/2)
PHASE CONT
TP1
IC18 INT EXT
CN1 6 SC OUT (X) 3-6 EN
IC10 (2/4) +5V
EN 3-2 SG CHROMA (X) CN1 2
Q13 CHROMA AMP
Q14 LIMITER
Q15 BUFF
IC13
IC10(3/4)
IC19
IC7(1/2),8(1/2) SC DUTY 50% SET
PHASE CONT
SC PHASE SHIFTER IC7(2/2),8(2/2)
TP2
EN 2-3 +9V IN CN2 3 +9V
EN 2-2 +5V IN CN2 2 +5V

SG-171 BLOCK

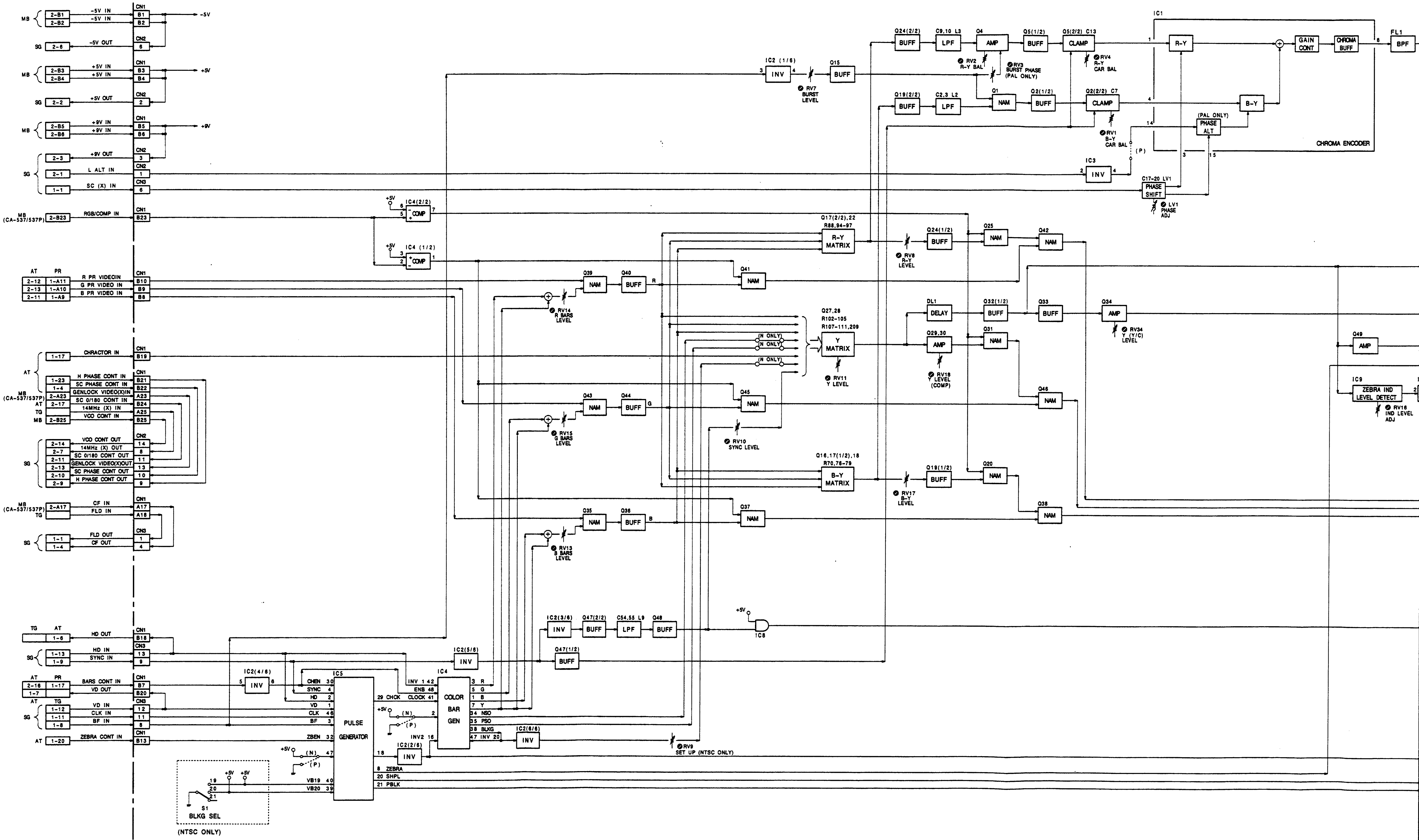
DXC-537 (J,UC)
DXC-537P(EK)
DXC-537M(J)

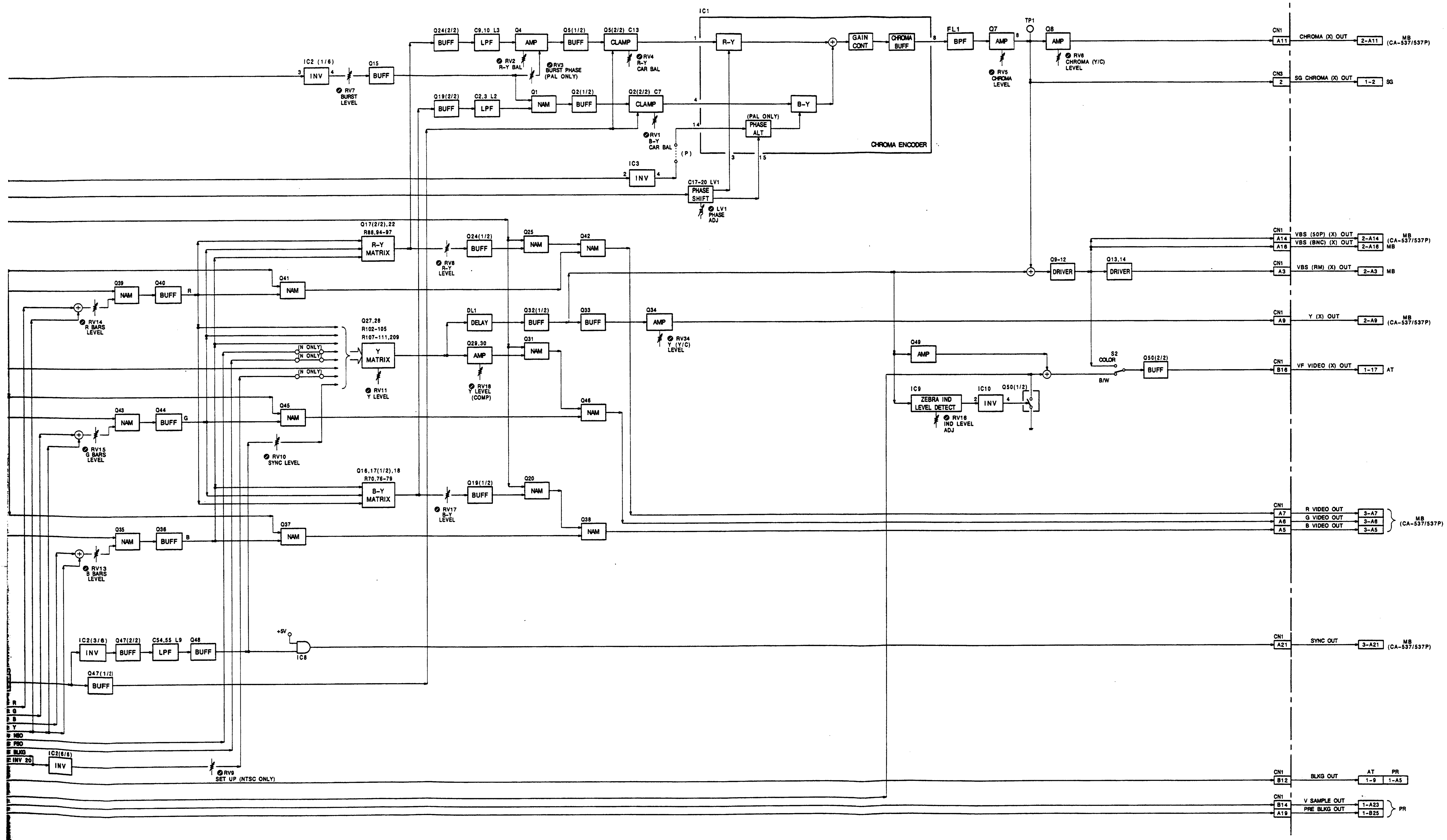

IC2
EXT SYNC 17
1/4)
11 EXT SC 4
GENERATOR LOCK CONTROLLER
MODE 1 5
MODE 2 6
INT SC 18
INT HD 15
CK IN 14
9 H COMP
Q16
BUFF
1 SC COMP
IC11
IC3 (1/2)
DC AMP
D3
LIMITER
IC16
VCO1
VCO
RV1 SC FREQUENCY
(P)
(N)
+5V
Q17
11 INT/EXT
10 H COMP
8 V RESET OUT
19 L ALT RESET OUT
IC5
CK 7
HD 5
CLOCK CONTROL
(PAL ONLY)
(1/2)
INT/EXT
IC9
4 FSC IN 10
INT/EXT IN 20
H COMP OUT 24
V RESET IN 1
L ALT RESET IN 15
CK IN 26
MODE 1 21
MODE 2 22
FH OUT 27
SC OUT 19
SYNC GENERATOR
12 VD OUT
5 FLD OUT
7 L ALT OUT
4 SYNC OUT
8 HD OUT
3 BF OUT
2 CF OUT
25 CK OUT
Q12(1/2)
BUFF
Q12(2/2)
CN2 14 VCO CONT OUT 2-14 EN
CN1 12 VD OUT 3-12 EN
CN1 1 FLD OUT 3-1 EN
CN2 1 L ALT OUT 2-1 EN
CN1 9 SYNC OUT 3-9 EN
CN1 13 HD OUT 3-13 EN
CN1 8 BF OUT 3-8 EN
CN1 4 CF PULSE OUT 3-4 EN
CN1 11 CK OUT 3-11 EN
INT
EXT
IC18
CN1 6 SC OUT (X) 3-6 EN
(2/4) +5V
4
5
(1/2),8(1/2)
C DUTY
% SET
PHASE CONT
SC PHASE SHIFTER
IC7(2/2),8(2/2)
TP2

SG-171 BLOCK

DXC-537 (J,UC)
DXC-537P(EK)
DXC-537M(J)

EN-95 BLOCK

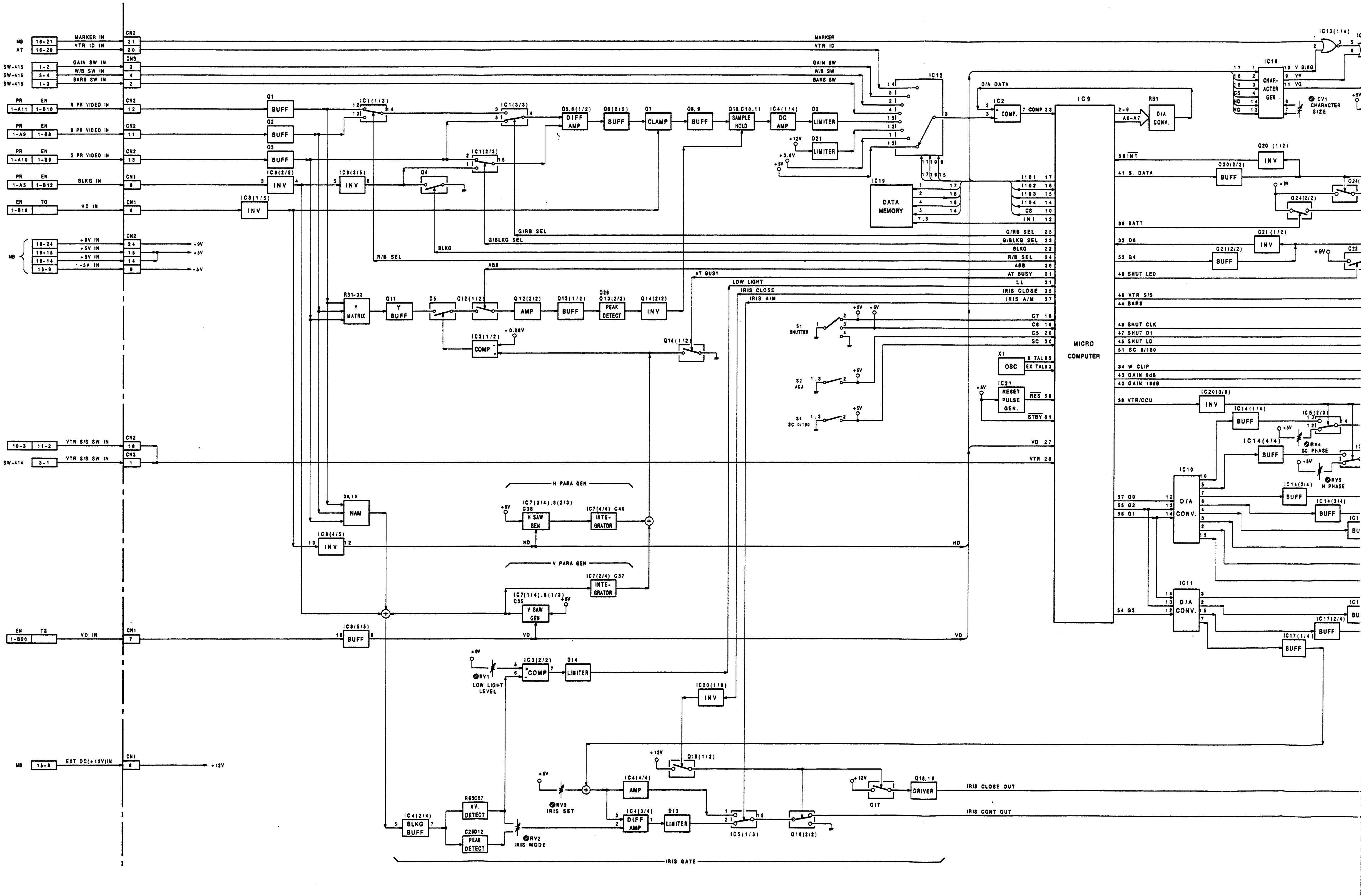

MB
2-B1
2-B2
-5V IN
CN1
B1
B2
-5V
SG
2-6
-5V OUT
CN2
6
2-B3
2-B4
+5V IN
B3
B4
+5V
2-2
+5V OUT
2
2-B5
2-B6
+9V IN
B5
B6
+9V
2-3
+9V OUT
3
2-1
L ALT IN
1
1-1
SC (X) IN
CN3
MB (CA-537/537P)
2-B23
RGB/COMP IN
B23
AT
PR
2-12
1-A11
2-13
1-A10
2-11
1-A9
R PR VIDEOIN
G PR VIDEO IN
B PR VIDEO IN
B10
B9
B8
1-17
CHRACTOR IN
B19
1-23
1-4
2-A23
2-17
2-B25
H PHASE CONT IN
SC PHASE CONT IN
GENLOCK VIDEO(X)IN
SC 0/180 CONT IN
14MHz (X) IN
VCO CONT IN
B21
B22
A23
B24
A25
B25
TG
2-14
2-7
2-11
2-13
2-10
2-9
VCO CONT OUT
14MHz (X) OUT
SC 0/180 CONT OUT
GENLOCK VIDEO(X)OUT
SC PHASE CONT OUT
H PHASE CONT OUT
14
8
11
13
10
9
2-A17
CF IN
FLD IN
A17
A18
1-1
1-4
FLD OUT
CF OUT
HD OUT
1-6
B18
1-13
1-9
HD IN
SYNC IN
13
9
2-16
1-17
1-7
BARS CONT IN
VD OUT
B7
B20
1-12
1-11
1-8
VD IN
CLK IN
BF IN
12
11
8
1-20
ZEBRA CONT IN
B13
S1
BLKG SEL
(NTSC ONLY)
IC4(2/2)
COMP
IC4 (1/2)
IC2 (1/6)
INV
RV7 BURST LEVEL
Q15
BUFF
Q24(2/2)
C9,10 L3
LPF
Q4
AMP
Q5(1/2)
Q5(2/2) C13
CLAMP
RV2 R-Y BAL
RV3 BURST PHASE (PAL ONLY)
RV4 R-Y CAR BAL
Q19(2/2)
C2,3 L2
Q1
NAM
Q2(1/2)
Q2(2/2) C7
RV1 B-Y CAR BAL
(P)
IC1
R-Y
B-Y
GAIN CONT
CHROMA BUFF
FL1
BPF
(PAL ONLY)
PHASE ALT
CHROMA ENCODER
IC3
C17-20 LV1
PHASE SHIFT
LV1 PHASE ADJ
Q17(2/2),22
R88,94-97
R-Y MATRIX
RV8 R-Y LEVEL
Q24(1/2)
Q25
Q42
Q39
Q40
Q41
RV14 R BARS LEVEL
Q27,28
R102-105
R107-111,209
Y MATRIX
(N ONLY)
RV11 Y LEVEL
DL1
DELAY
Q32(1/2)
Q33
Q34
RV34 Y (Y/C) LEVEL
Q29,30
RV18 Y LEVEL (COMP)
Q31
Q49
IC9
ZEBRA IND LEVEL DETECT
RV16 IND LEVEL ADJ
Q43
Q44
Q45
Q46
RV15 G BARS LEVEL
RV10 SYNC LEVEL
Q16,17(1/2),18
R70,76-79
B-Y MATRIX
RV17 B-Y LEVEL
Q19(1/2)
Q20
Q35
Q36
Q37
Q38
RV13 B BARS LEVEL
IC2(3/6)
Q47(2/2)
C54,55 L9
Q48
IC8
IC2(5/6)
Q47(1/2)
IC2(4/6)
IC5
CHEN
SYNC
HD
VD
CLK
BF
ZBEN
VB19
VB20
PULSE GENERATOR
IC4
INV 1
ENB
CLOCK
CHCK
COLOR BAR GEN
R
G
B
Y
NSO
PSO
BLKG
INV 2
IC2(6/6)
IC2(2/6)
(N)
(P)
RV9 SET UP (NTSC ONLY)
ZEBRA
SHPL
PBLK


IC1
IC2 (1/6)
INV
Q15
BUFF
RV7 BURST LEVEL
Q24(2/2)
BUFF
C9,10 L3
LPF
Q4
AMP
RV2 R-Y BAL
RV3 BURST PHASE (PAL ONLY)
Q5(1/2)
BUFF
Q5(2/2) C13
CLAMP
RV4 R-Y CAR BAL
R-Y
GAIN CONT
CHROMA BUFF
FL1
BPF
Q7
AMP
RV5 CHROMA LEVEL
TP1
Q8
AMP
RV6 CHROMA (Y/C) LEVEL
Q19(2/2)
BUFF
C2,3 L2
LPF
Q1
NAM
Q2(1/2)
BUFF
Q2(2/2) C7
CLAMP
RV1 B-Y CAR BAL
B-Y
(PAL ONLY)
PHASE ALT
CHROMA ENCODER
(P)
IC3
INV
C17-20 LV1
PHASE SHIFT
LV1 PHASE ADJ
Q17(2/2),22
R88,94-97
R-Y MATRIX
RV8 R-Y LEVEL
Q24(1/2)
BUFF
Q25
NAM
Q42
NAM
Q39
NAM
Q40
BUFF
Q41
NAM
RV14 R BARS LEVEL
Q27,28
R102-105
R107-111,209
Y MATRIX
(N ONLY)
RV11 Y LEVEL
DL1
DELAY
Q32(1/2)
BUFF
Q33
BUFF
Q34
AMP
RV34 Y (Y/C) LEVEL
Q29,30
AMP
RV18 Y LEVEL (COMP)
Q31
NAM
Q46
NAM
Q43
NAM
Q44
BUFF
Q45
NAM
RV15 G BARS LEVEL
RV10 SYNC LEVEL
Q16,17(1/2),18
R70,76-79
B-Y MATRIX
RV17 B-Y LEVEL
Q19(1/2)
BUFF
Q20
NAM
Q38
NAM
Q35
NAM
Q36
BUFF
Q37
NAM
RV13 B BARS LEVEL
+5V
IC8
IC2(3/6)
INV
Q47(2/2)
BUFF
C54,55 L9
LPF
Q48
BUFF
Q47(1/2)
BUFF
IC2(6/6)
INV
RV9 SET UP (NTSC ONLY)
R
G
B
Y
NSO
PSO
BLKG
INV 20
Q9-12
DRIVER
Q13,14
DRIVER
Q49
AMP
S2
COLOR
B/W
Q50(2/2)
BUFF
IC9
ZEBRA IND LEVEL DETECT
RV16 IND LEVEL ADJ
IC10
INV
Q50(1/2)
CN1
A11
CHROMA (X) OUT
2-A11
MB (CA-537/537P)
CN3
2
SG CHROMA (X) OUT
1-2
SG
A14
A16
VBS (50P) (X) OUT
VBS (BNC) (X) OUT
2-A14
2-A16
MB (CA-537/537P)
MB
A3
VBS (RM) (X) OUT
2-A3
MB
A9
Y (X) OUT
2-A9
MB (CA-537/537P)
B16
VF VIDEO (X) OUT
1-17
AT
A7
A6
A5
R VIDEO OUT
G VIDEO OUT
B VIDEO OUT
3-A7
3-A6
3-A5
MB (CA-537/537P)
A21
SYNC OUT
3-A21
MB (CA-537/537P)
B12
BLKG OUT
AT
PR
1-9
1-A5
B14
A19
V SAMPLE OUT
PRE BLKG OUT
1-A23
1-B25
PR

EN-95 BLOCK

DXC-537 (J,UC)
DXC-537P (EK)
DXC-537M (J)

AT-59 BLOCK

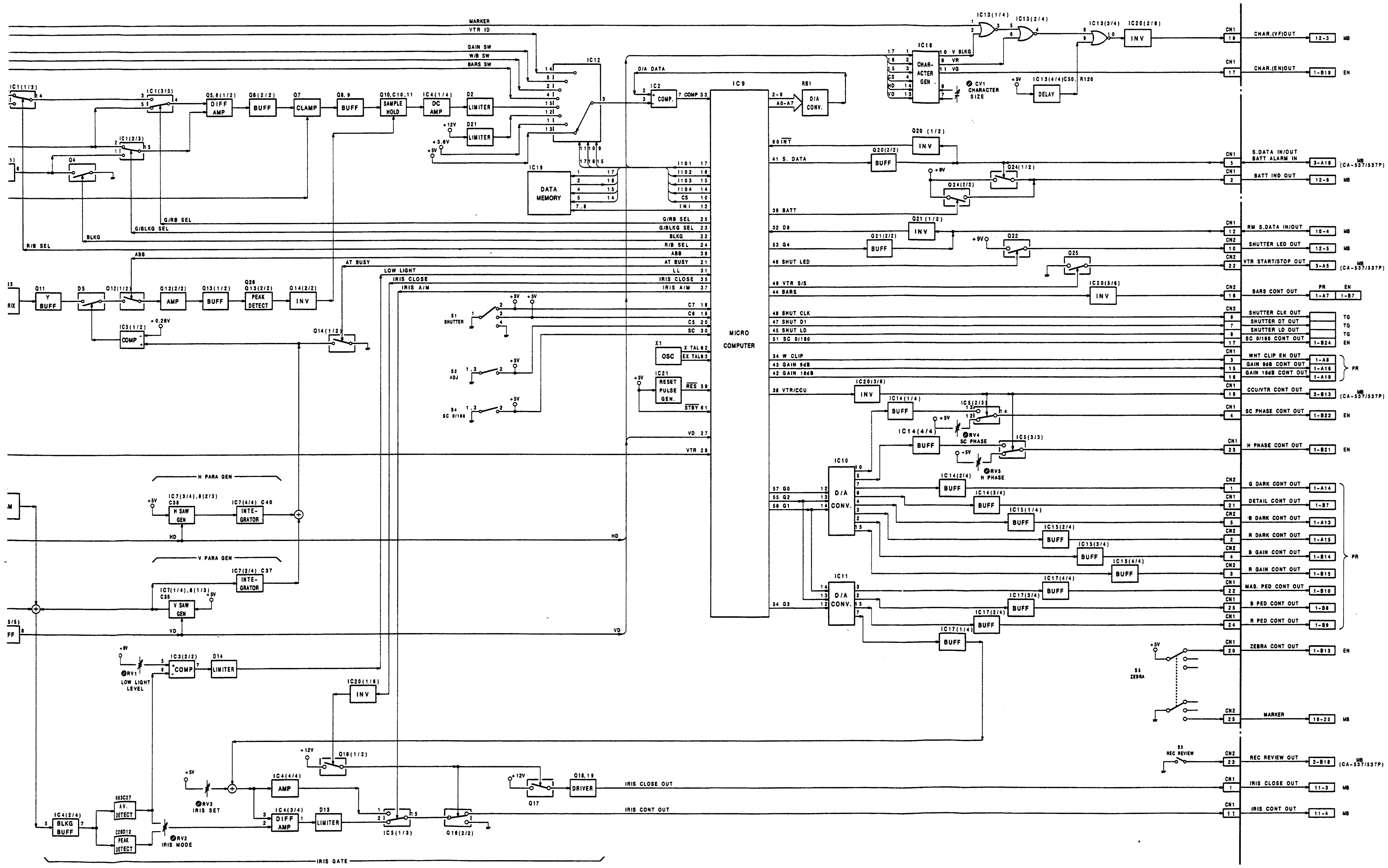

MARKER IN
VTR ID IN
GAIN SW IN
W/B SW IN
BARS SW IN
R PR VIDEO IN
B PR VIDEO IN
G PR VIDEO IN
BLKG IN
HD IN
+9V IN
+5V IN
+5V IN
-5V IN
VTR S/S SW IN
VTR S/S SW IN
VD IN
EXT DC(+12V)IN
BUFF
INV
DIFF AMP
CLAMP
SAMPLE HOLD
DC AMP
LIMITER
DATA MEMORY
COMP.
MICRO COMPUTER
D/A CONV.
CHAR-ACTER GEN.
Y MATRIX
Y BUFF
AMP
PEAK DETECT
COMP
NAM
H PARA GEN
H SAW GEN
INTE-GRATOR
V PARA GEN
V SAW GEN
LOW LIGHT LEVEL
IRIS SET
IRIS MODE
BLKG BUFF
AV. DETECT
DRIVER
IRIS CLOSE OUT
IRIS CONT OUT
IRIS GATE
OSC
RESET PULSE GEN.
SHUTTER
ADJ
SC 0/180
CHARACTER SIZE
SC PHASE
H PHASE

DXC-537 (J,UC)
DXC-537P(EK)

A-21

A-22

A | B | C | D | E | F | G | H |


MARKER
VTR ID
GAIN SW
W/B SW
BARS SW
IC12
D/A DATA
IC2
COMP.
IC9
RB1
D/A CONV.
IC16
CHAR-ACTER GEN
CV1 CHARACTER SIZE
IC13(1/4)
IC13(2/4)
IC13(3/4)
IC20(2/6)
INV
IC13(4/4)C50, R120
DELAY
CHAR.(VF)OUT
CHAR.(EN)OUT
IC1(1/3)
IC1(3/3)
Q5,6(1/2)
DIFF AMP
Q8(2/2)
BUFF
Q7
CLAMP
Q8,9
BUFF
Q10,C10,11
SAMPLE HOLD
IC4(1/4)
DC AMP
D2
LIMITER
D21
LIMITER
IC1(2/3)
Q4
IC19
DATA MEMORY
G/RB SEL
G/BLKG SEL
BLKG
R/B SEL
ABB
AT BUSY
LOW LIGHT
IRIS CLOSE
IRIS A/M
Q11
Y BUFF
D5
Q12(1/2)
Q12(2/2)
AMP
Q13(1/2)
BUFF
Q20
Q13(2/2)
PEAK DETECT
Q14(2/2)
INV
IC3(1/2)
COMP
Q14(1/2)
S1 SHUTTER
S2 ADJ
S4 SC 0/180
X1
OSC
IC21
RESET PULSE GEN.
MICRO COMPUTER
Q20 (1/2)
Q20(2/2)
Q24(1/2)
Q24(2/2)
Q21 (1/2)
Q21(2/2)
Q22
Q25
IC20(5/6)
S.DATA IN/OUT BATT ALARM IN
BATT IND OUT
RM S.DATA IN/OUT
SHUTTER LED OUT
VTR START/STOP OUT
BARS CONT OUT
SHUTTER CLK OUT
SHUTTER DT OUT
SHUTTER LD OUT
SC 0/180 CONT OUT
WHT CLIP EN OUT
GAIN 9dB CONT OUT
GAIN 18dB CONT OUT
CCU/VTR CONT OUT
SC PHASE CONT OUT
H PHASE CONT OUT
IC20(3/6)
IC14(1/4)
IC5(2/3)
RV4 SC PHASE
IC14(4/4)
IC5(3/3)
RV5 H PHASE
IC10
D/A CONV.
IC11
D/A CONV.
IC14(2/4)
IC14(3/4)
IC15(1/4)
IC15(2/4)
IC15(3/4)
IC15(4/4)
IC17(4/4)
IC17(3/4)
IC17(2/4)
IC17(1/4)
G DARK CONT OUT
DETAIL CONT OUT
B DARK CONT OUT
R DARK CONT OUT
B GAIN CONT OUT
R GAIN CONT OUT
MAS. PED CONT OUT
B PED CONT OUT
R PED CONT OUT
ZEBRA CONT OUT
S5 ZEBRA
MARKER
S3 REC REVIEW
REC REVIEW OUT
IRIS CLOSE OUT
IRIS CONT OUT
H PARA GEN
IC7(3/4),8(2/3)
C38
H SAW GEN
IC7(4/4) C40
INTE-GRATOR
V PARA GEN
IC7(2/4) C37
INTE-GRATOR
IC7(1/4),8(1/3)
C35
V SAW GEN
HD
VD
IC3(2/2)
COMP
D14
LIMITER
RV1 LOW LIGHT LEVEL
IC20(1/6)
INV
Q16(1/2)
IC4(4/4)
AMP
IC4(3/4)
DIFF AMP
D13
LIMITER
RV3 IRIS SET
IC4(2/4)
BLKG BUFF
Q53C27
AV. DETECT
C38D12
PEAK DETECT
RV2 IRIS MODE
IC5(1/3)
Q16(2/2)
Q17
Q18,19
DRIVER
IRIS GATE
CN1
CN2
12-3
1-B19
3-A18
12-6
10-4
12-5
3-A5
1-A7
1-B7
1-B24
1-A8
1-A18
1-A19
3-B13
1-B22
1-B21
1-A14
1-B7
1-A13
1-A15
1-B14
1-B15
1-B10
1-B8
1-B9
1-B13
16-25
3-B18
11-3
11-4
MB
EN
TG
PR
(CA-537/537P)

AT-59 BLOCK

DXC-537 (J,UC)
DXC-537P(EK)
DXC-537M(J)

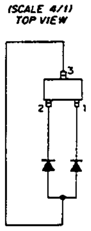
SECTION B
SEMICONDUCTOR

The circuit diagram of IC is obtained from the IC data book published by the manufacturer.

TYPE	PAGE
1S2835	B-2
1S2836	B-2
1S2837	B-2
1SS123	B-2
1SS226	B-2
1SS303	B-2
1SS97	B-2
2SA1162	B-2
2SA1213	B-2
2SA1226	B-2
2SA1462	B-2
2SA1610	B-2
2SA1611	B-2
2SB1123	B-2
2SB1295	B-2
2SB798	B-2
2SB799	B-2
2SB815	B-2
2SC1009A	B-2
2SC1623	B-2
2SC2757	B-2
2SC2873	B-2
2SC4177	B-2
2SD1048	B-2
2SD1623	B-2
2SD999	B-2
2SK94	B-2
3SK163	B-2
74AC04SJ	B-3
CX22017	B-3
CX7968A	B-3
CX7969	B-4
CXD1216M	B-5
CXD1217M	B-5
CXD1361M	B-7
CXD8154M	B-7
HD6305Y0E27F	B-8
HSM88AS	B-2
HZ ?CLL	B-2
LM2903M	B-8
LM35DZ	B-8

TYPE	PAGE
M5236ML	B-9
M6M80011L	B-9
MA152WK	B-2
MB7116H	B-9
MB88342PF	B-9
MC14001BF	B-9
MC14051BF	B-9
MC14053BF	B-10
MC14069UBF	B-10
MC74HC86F	B-10
NJM319M	B-10
RC1496M	B-10
RD ? ?M	B-2
SC7S04F	B-10
SC7S32F	B-10
SN74HC00NS	B-10
SN74HC04NS	B-3
SN74HC86NS	B-10
SN74LS123NS	B-11
TC4017BF	B-11
TC4081BF	B-11
TC4S66F	B-11
TC4SU69F	B-11
TC4W53F	B-11
TC74HC123AF	B-12
TC74HC4538AF	B-12
TC7S00F	B-12
TC7S04F	B-12
TC7S08F	B-10
TC7S32F	B-10
TL062CPS	B-12
TL064CNS	B-12
TL082CPS	B-12
uPC311G2	B-12
uPC358G2	B-12
uPC812G2	B-12
uPD6142G-101	B-12
XN4601	B-2
XN6401	B-2
XN6435	B-2
XN6501	B-2
XN6534	B-2

DIODE, TRANSISTOR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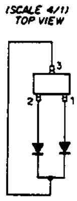
TOP VIEW
3
2
1

1S2835
1S2836
1SS303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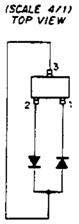
TOP VIEW
3
2
1

1S2837
MA152WK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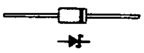
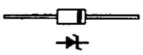
TOP VIEW
3
2
1

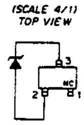
1SS123
1SS226
HSM88AS



1SS97



HZ ?CLL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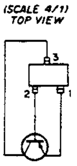
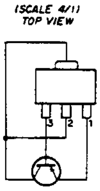
TOP VIEW
3
NC
2
1

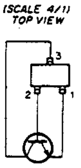
RD ? ?M


(SCALE 4/1)
TOP VIEW
3
2
1

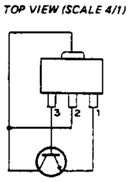
2SA1162
2SA1226
2SA1462
2SA1610
2SA1611
2SB1295
2SB815


(SCALE 4/1)
TOP VIEW
3
2
1

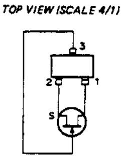
2SA1213
2SB1123
2SB798
2SB799


(SCALE 4/1)
TOP VIEW
3
2
1

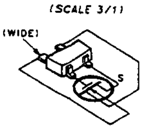
2SC1009A
2SC1623
2SC2757
2SC4177
2SD1048


TOP VIEW (SCALE 4/1)
3
2
1

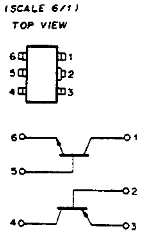
2SC2873
2SD1623
2SD999


TOP VIEW (SCALE 4/1)
3
2
1
S

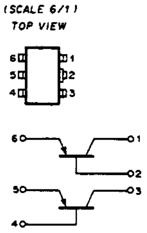
2SK94


(SCALE 3/1)
(WIDE)
S

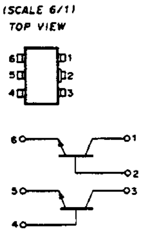
3SK163


(SCALE 6/1)
TOP VIEW
6
5
4
1
2
3

XN4601


(SCALE 6/1)
TOP VIEW
6
5
4
1
2
3

XN6401
XN6435

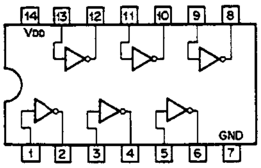

(SCALE 6/1)
TOP VIEW
6
5
4
1
2
3

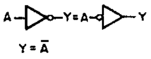
XN6501
XN6534

74AC04SJ (NS) FLAT PACKAGE
SN74HC04NS (TI) FLAT PACKAGE

C-MOS HEX INVERTER
– TOP VIEW –

'C74HC04P


14
13
12
11
10
9
8
VDD
GND
1
2
3
4
5
6
7



Y = Ā

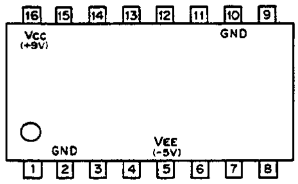
A	Y
0	1
1	0

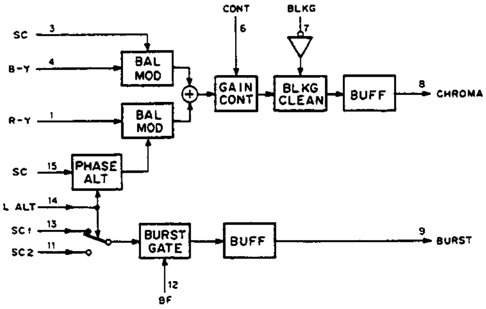
0: LOW LEVEL
1: HIGH LEVEL

NOTE :

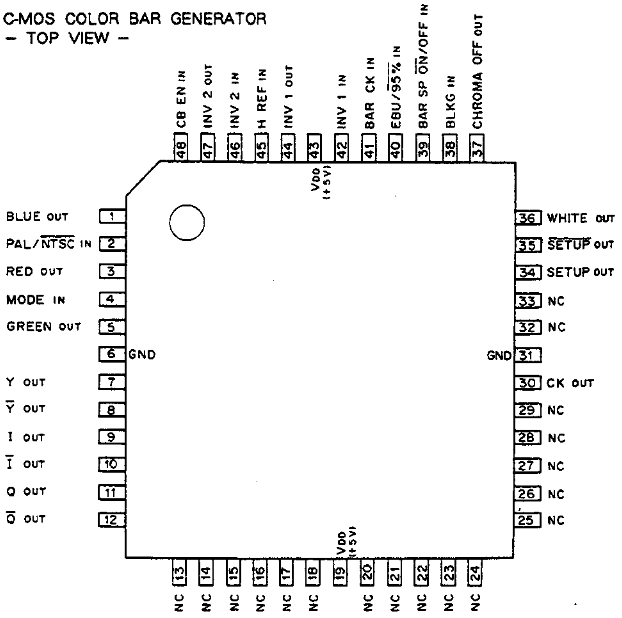
TYPE	VDD
74ACT04 TYPES 74HCT04 TYPES	+5V
TC74AC04F	+2 to +5.5V
TC74ACT04F	+4.5 to +5.5V
OTHER TYPES	+2 to +6V

CX22017 (SONY)
VIDEO SIGNAL PROCESSOR
– TOP VIEW –


16
15
14
13
12
11
10
9
Vcc
(+9V)
GND
GND
VEE
(-5V)
1
2
3
4
5
6
7
8


CONT
6
BLKG
7
SC
3
B-Y
4
BAL MOD
R-Y
1
BAL MOD
GAIN CONT
BLKG CLEAN
BUFF
8
CHROMA
SC
15
PHASE ALT
L ALT
14
SC1
13
SC2
11
BURST GATE
BUFF
9
BURST
12
BF

CX7968A (SONY)
C-MOS COLOR BAR GENERATOR
– TOP VIEW –

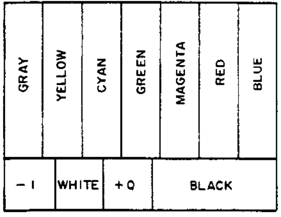

48 CB EN IN
47 INV 2 OUT
46 INV 2 IN
45 H REF IN
44 INV 1 OUT
43 VDD (+5V)
42 INV 1 IN
41 BAR CK IN
40 EBU/95% IN
39 BAR SP ON/OFF IN
38 BLKG IN
37 CHROMA OFF OUT
BLUE OUT 1
PAL/NTSC IN 2
RED OUT 3
MODE IN 4
GREEN OUT 5
6 GND
Y OUT 7
Ȳ OUT 8
I OUT 9
Ī OUT 10
Q OUT 11
Q̄ OUT 12
36 WHITE OUT
35 SETUP OUT
34 SETUP OUT
33 NC
32 NC
GND 31
30 CK OUT
29 NC
28 NC
27 NC
26 NC
25 NC
13 NC
14 NC
15 NC
16 NC
17 NC
18 NC
19 VDD (+5V)
20 NC
21 NC
22 NC
23 NC
24 NC

INPUT				FUNCTION
PAL/NTSC	MODE	EBU/95%	BAR SP	
0	0	0	0	EIAJ COLOR BAR
0	0	0	1	FULL FIELD COLOR BAR
0	0	1	0	INHIBIT
0	0	1	1	INHIBIT
0	1	0	0	EIAJ COLOR BAR
0	1	0	1	FULL FIELD COLOR BAR
0	1	1	0	SMPTE COLOR BAR
0	1	1	1	COLOR BAR + Y BAR
1	0	0	0	95% COLOR BAR
1	0	0	1	INHIBIT
1	0	1	0	EBU COLOR BAR
1	0	1	1	INHIBIT
1	1	0	0	95% COLOR BAR
1	1	0	1	COLOR BAR + Y BAR
1	1	1	0	EBU COLOR BAR
1	1	1	1	INHIBIT

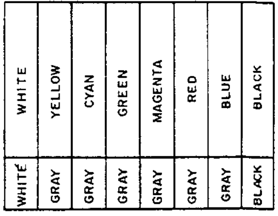
0 ; LOW LEVEL
1 ; HIGH LEVEL

○ COLOR BAR PATTERN

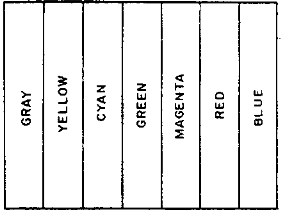
EIAJ COLOR BAR (NTSC)


GRAY
YELLOW
CYAN
GREEN
MAGENTA
RED
BLUE
– I
WHITE
+Q
BLACK

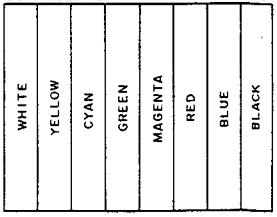
COLOR BAR + Y BAR (PAL) or (NTSC)


WHITE
YELLOW
CYAN
GREEN
MAGENTA
RED
BLUE
BLACK
WHITE
GRAY
GRAY
GRAY
GRAY
GRAY
GRAY
BLACK

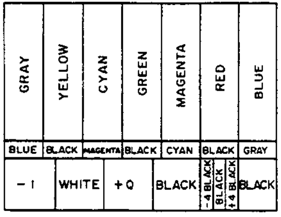
FULL FIELD COLOR BAR (NTSC)


GRAY
YELLOW
CYAN
GREEN
MAGENTA
RED
BLUE

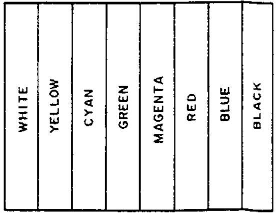
95% COLOR BAR (PAL)

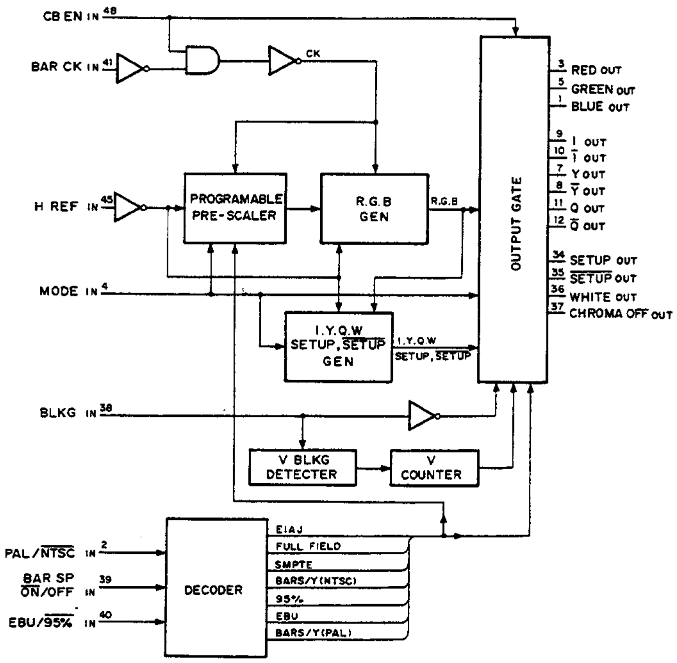

WHITE
YELLOW
CYAN
GREEN
MAGENTA
RED
BLUE
BLACK

SMPTE COLOR BAR (NTSC)


GRAY
YELLOW
CYAN
GREEN
MAGENTA
RED
BLUE
BLUE
BLACK
MAGENTA
BLACK
CYAN
BLACK
GRAY
– I
WHITE
+Q
BLACK
-4 BLACK
BLACK
+4 BLACK
BLACK

EBU COLOR BAR (PAL)


WHITE
YELLOW
CYAN
GREEN
MAGENTA
RED
BLUE
BLACK


CB EN IN 48
BAR CK IN 41
CK
H REF IN 45
PROGRAMABLE PRE-SCALER
R.G.B GEN
R.G.B
OUTPUT GATE
3 RED OUT
5 GREEN OUT
1 BLUE OUT
9 I OUT
10 Ī OUT
7 Y OUT
8 Ȳ OUT
11 Q OUT
12 Q̄ OUT
34 SETUP OUT
35 SETUP OUT
36 WHITE OUT
37 CHROMA OFF OUT
MODE IN 4
I.Y.Q.W SETUP, SETUP GEN
I.Y.Q.W
SETUP, SETUP
BLKG IN 38
V BLKG DETECTER
V COUNTER
PAL/NTSC IN 2
BAR SP ON/OFF IN 39
EBU/95% IN 40
DECODER
EIAJ
FULL FIELD
SMPTE
BARS/Y(NTSC)
95%
EBU
BARS/Y(PAL)

1. SYSTEM DESIGNATION

INPUT	SYSTEM
PAL/NTSC IN	
1	PAL, SECAM
0	NTSC, PALM

2. TYPE OF TUBE

INPUT	FUNCTION
MF/MM IN	
1	MAG-STA TUBE
0	MAG-MAG TUBE

3. V BLKG WIDTH (NTSC ONLY)

INPUT		V BLKG WIDTH
V BL 19	V BL 20	
1	X	19H
0	1	20H
0	0	21H

4. H BLKG WIDTH

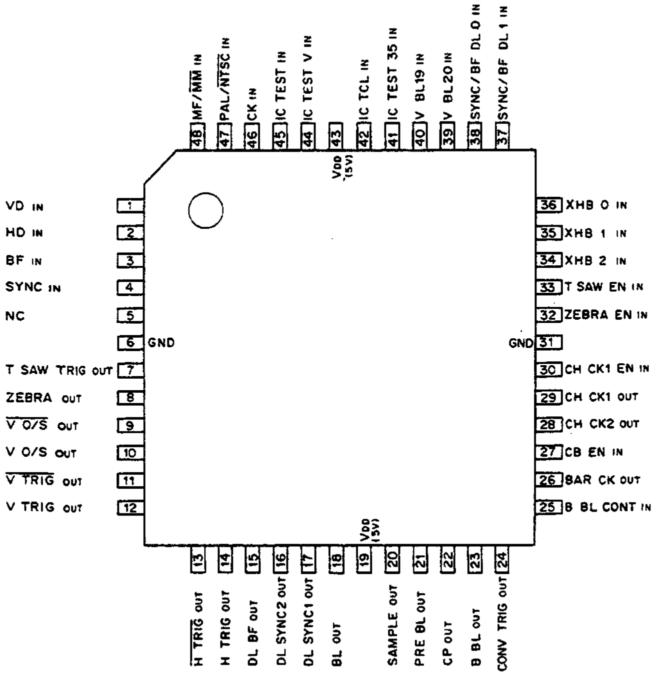
INPUT			BLKG WIDTH (μS)	
XHB2	XHB1	XHB0	NTSC	PAL
1	1	1	10.27	11.49
1	1	0	10.34	11.56
1	0	1	10.41	11.63
1	0	0	10.48	11.70
0	1	1	10.55	11.77
0	1	0	10.62	11.84
0	0	1	10.69	11.91
0	0	0	10.76	11.98

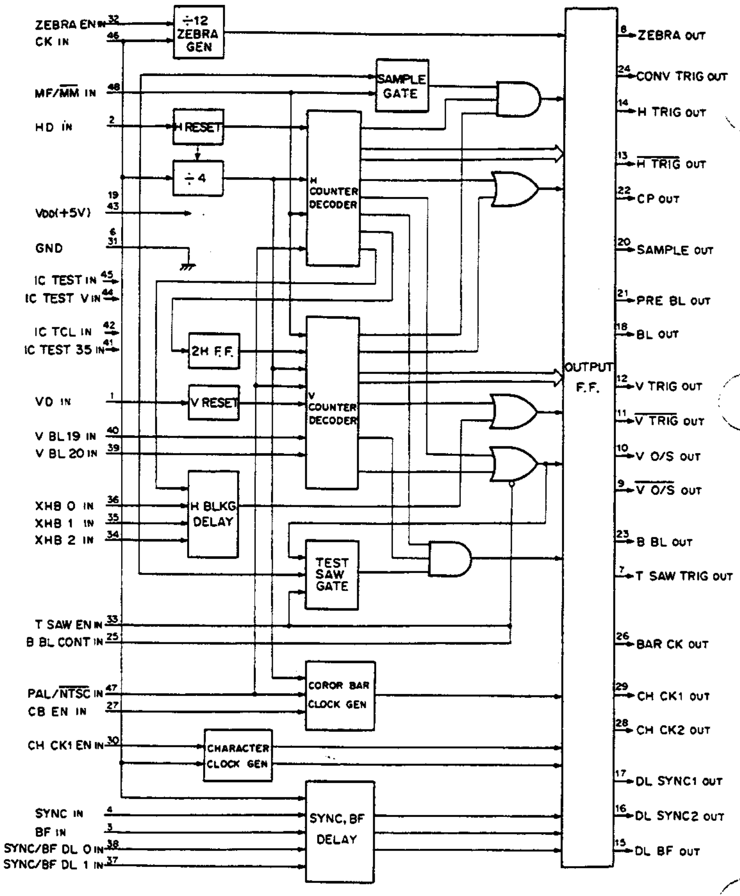
5. DELAY TIME

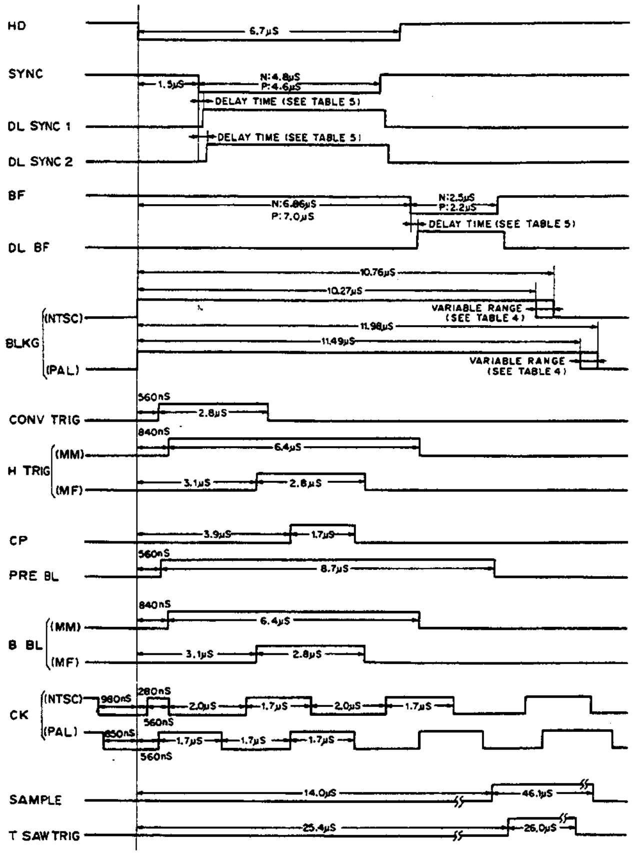
INPUT		DELAY TIME (nS)		
SYNC/BF DL1	SYNC/BF DL2	DL SYNC 1	DL SYNC 2	DL BF
1	1	140	210	140
1	0	210	280	210
0	1	630	700	630
0	0	700	770	700

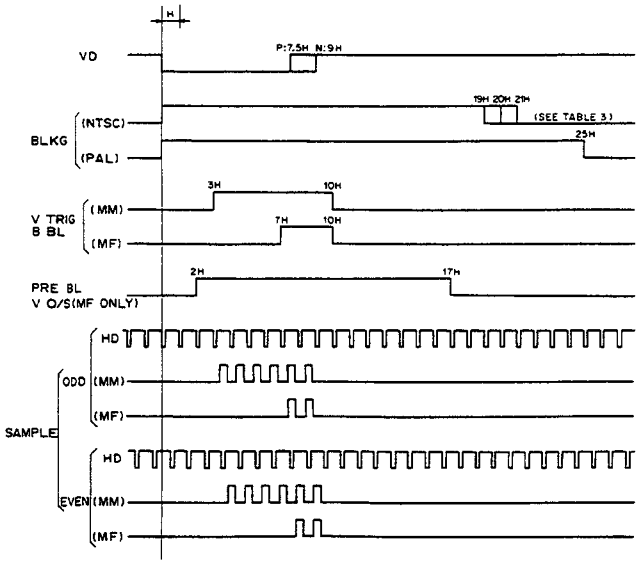
1; HIGH LEVEL
0; LOW LEVEL
X; DON'T CARE

CX7969 (SONY)
C-MOS PULSE GENERATOR
- TOP VIEW -


1 VD IN
2 HD IN
3 BF IN
4 SYNC IN
5 NC
6 GND
7 T SAW TRIG OUT
8 ZEBRA OUT
9 V̄ O/S OUT
10 V O/S OUT
11 V̄ TRIG OUT
12 V TRIG OUT
13 H̄ TRIG OUT
14 H TRIG OUT
15 DL BF OUT
16 DL SYNC2 OUT
17 DL SYNC1 OUT
18 BL OUT
19 VDD (5V)
20 SAMPLE OUT
21 PRE BL OUT
22 CP OUT
23 B BL OUT
24 CONV TRIG OUT
25 B BL CONT IN
26 BAR CK OUT
27 CB EN IN
28 CH CK2 OUT
29 CH CK1 OUT
30 CH CK1 EN IN
31 GND
32 ZEBRA EN IN
33 T SAW EN IN
34 XHB 2 IN
35 XHB 1 IN
36 XHB 0 IN
37 SYNC/BF DL 1 IN
38 SYNC/BF DL 0 IN
39 V BL20 IN
40 V BL19 IN
41 IC TEST 35 IN
42 IC TCL IN
43 VDD (5V)
44 IC TEST V IN
45 IC TEST IN
46 CK IN
47 PAL/NTSC IN
48 MF/MM IN


ZEBRA EN IN 32
CK IN 46
÷12 ZEBRA GEN
MF/MM IN 48
HD IN 2
RESET
÷4
VDD(+5V) 19 43
GND 6 31
IC TEST IN 45
IC TEST V IN 44
IC TCL IN 42
IC TEST 35 IN 41
2H F.F.
VD IN 1
V RESET
V BL19 IN 40
V BL20 IN 39
XHB 0 IN 36
XHB 1 IN 35
XHB 2 IN 34
H BLKG DELAY
H COUNTER DECODER
V COUNTER DECODER
SAMPLE GATE
TEST SAW GATE
T SAW EN IN 33
B BL CONT IN 25
PAL/NTSC IN 47
CB EN IN 27
COROR BAR CLOCK GEN
CH CK1 EN IN 30
CHARACTER CLOCK GEN
SYNC IN 4
BF IN 3
SYNC/BF DL 0 IN 38
SYNC/BF DL 1 IN 37
SYNC, BF DELAY
OUTPUT F.F.
8 ZEBRA OUT
24 CONV TRIG OUT
14 H TRIG OUT
13 H̄ TRIG OUT
22 CP OUT
20 SAMPLE OUT
21 PRE BL OUT
18 BL OUT
12 V TRIG OUT
11 V̄ TRIG OUT
10 V O/S OUT
9 V̄ O/S OUT
23 B BL OUT
7 T SAW TRIG OUT
26 BAR CK OUT
29 CH CK1 OUT
28 CH CK2 OUT
17 DL SYNC1 OUT
16 DL SYNC2 OUT
15 DL BF OUT

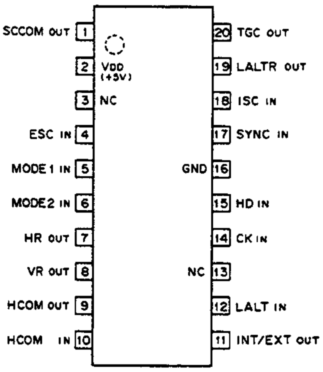

HD
6.7μS
SYNC
1.5μS
N:4.8μS
P:4.6μS
DELAY TIME (SEE TABLE 5)
DL SYNC 1
DL SYNC 2
BF
N:6.86μS
P:7.0μS
N:2.5μS
P:2.2μS
DELAY TIME (SEE TABLE 5)
DL BF
10.76μS
10.27μS
VARIABLE RANGE (SEE TABLE 4)
BLKG
(NTSC)
(PAL)
11.98μS
11.49μS
VARIABLE RANGE (SEE TABLE 4)
CONV TRIG
560nS
2.8μS
H TRIG
(MM)
(MF)
840nS
6.4μS
3.1μS
2.8μS
CP
3.9μS
1.7μS
PRE BL
560nS
8.7μS
B BL
(MM)
(MF)
840nS
6.4μS
3.1μS
2.8μS
CK
(NTSC)
(PAL)
980nS
280nS
2.0μS
1.7μS
2.0μS
1.7μS
560nS
650nS
1.7μS
1.7μS
1.7μS
560nS
SAMPLE
14.0μS
46.1μS
T SAWTRIG
25.4μS
26.0μS


H
VD
P:7.5H N:9H
BLKG
(NTSC)
(PAL)
19H 20H 21H
(SEE TABLE 3)
25H
V TRIG
B BL
(MM)
(MF)
3H
10H
7H
10H
PRE BL
V O/S(MF ONLY)
2H
17H
SAMPLE
ODD
EVEN
HD
(MM)
(MF)

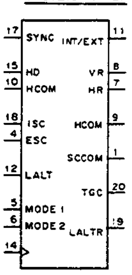
CXD1216M (SONY) FLAT PACKAGE

C-MOS GENLOCK DRIVER

- TOP VIEW -

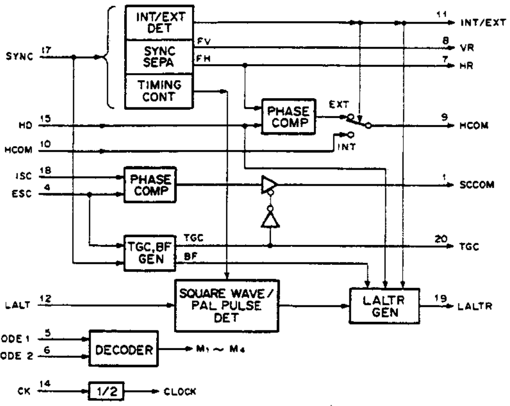

SCCOM OUT 1
VDD (+5V) 2
NC 3
ESC IN 4
MODE1 IN 5
MODE2 IN 6
HR OUT 7
VR OUT 8
HCOM OUT 9
HCOM IN 10
INT/EXT OUT 11
LALT IN 12
NC 13
CK IN 14
HD IN 15
GND 16
SYNC IN 17
ISC IN 18
LALTR OUT 19
TGC OUT 20

CXD1216M(1/2)


17 SYNC
15 HD
10 HCOM
18 ISC
4 ESC
12 LALT
5 MODE 1
6 MODE 2
14
INT/EXT 11
VR 8
HR 7
HCOM 9
SCCOM 1
TGC 20
LALTR 19

INPUT		MODE	SYSTEM
MODE1	MODE2		
0	0	M1	PAL-VBS
1	0	M2	PALM-VBS
0	1	M3	PAL,SECAM-VS/SC/LALT
1	1	M4	NTSC-VBS,NTSC-VS/SC PALM-VS/SC/LALT

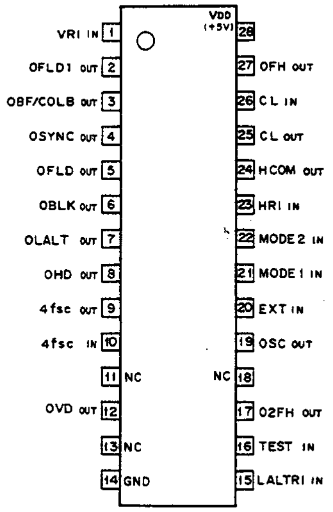
0 : LOW LEVEL
1 : HIGH LEVEL

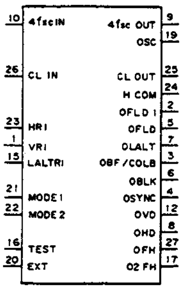

SYNC 17
INT/EXT DET
SYNC SEPA
TIMING CONT
FV
FH
11 INT/EXT
8 VR
7 HR
HD 15
HCOM 10
PHASE COMP
EXT
INT
9 HCOM
ISC 18
ESC 4
PHASE COMP
1 SCCOM
TGC,BF GEN
TGC
BF
20 TGC
LALT 12
SQUARE WAVE/ PAL PULSE DET
LALTR GEN
19 LALTR
MODE 1 5
MODE 2 6
DECODER
M1 ~ M4
CK 14
1/2
CLOCK

INPUT
CK : 4fsc CLOCK INPUT
ESC : SC/COLOR BURST
HCOM : PHASE COMPARATE FROM CXD1217
HD : H DRIVE FROM CXD1217
ISC : SUBCARRIER FROM CXD1217
LALT : LALT FROM REFERENCE SIGNAL GENERATOR
MODE1,2 : SYSTEM SELECT
SYNC : SYNC FROM REFERENCE SIGNAL GENERATOR

OUTPUT
HCOM : PHASE COMPARATOR HR WITH HD
HR : fH OF SYNC SEPARATE
INT/EXT : INTERNAL/EXTERNAL SPECIFIED
LALTR : LINE CHANGE RESET
SCCOM : PHASE COMPARATOR ESC WITH ISC
TGC : TRISTATE CONTROL
VR : fv OF SYNC SEPARATE

CXD1217M (SONY) FLAT PACKAGE
C-MOS SYNC GENERATOR
- TOP VIEW -

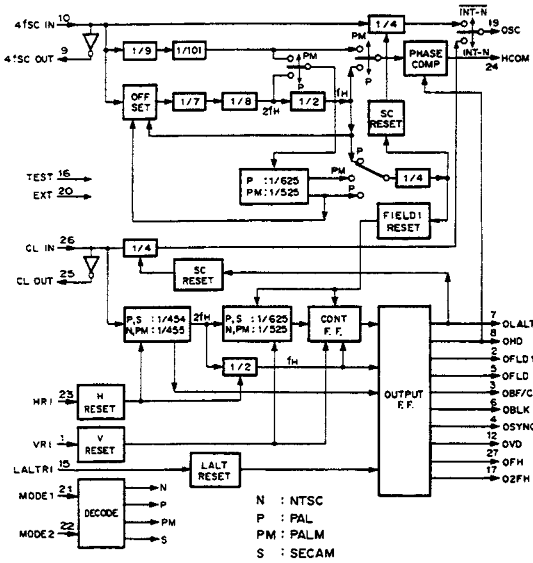

VDD (+5V) 28
VRI IN 1
OFLD1 OUT 2
OBF/COLB OUT 3
OSYNC OUT 4
OFLD OUT 5
OBLK OUT 6
OLALT OUT 7
OHD OUT 8
4fsc OUT 9
4fsc IN 10
11 NC
OVD OUT 12
13 NC
14 GND
27 OFH OUT
26 CL IN
25 CL OUT
24 HCOM OUT
23 HRI IN
22 MODE2 IN
21 MODE1 IN
20 EXT IN
19 OSC OUT
NC 18
17 O2FH OUT
16 TEST IN
15 LALTRI IN


10 4fscIN
26 CL IN
23 HRI
1 VRI
15 LALTRI
21 MODE1
22 MODE2
16 TEST
20 EXT
4fsc OUT 9
OSC 19
CL OUT 25
H COM 24
OFLD1 2
OFLD 5
OLALT 7
OBF/COLB 3
OBLK 6
OSYNC 4
OVD 12
OHD 8
OFH 27
O2 FH 17

SYSTEM	4fsc	CLOCK
NTSC	$910f_H$	$910f_H$
PAL	$1135f_H+2f_V$	$908f_H$
PALM	$909f_H$	$910f_H$
SECAM	—	$908f_H$

INPUT		SYSTEM
MODE1	MODE2	
0	0	NTSC
0	1	SECAM
1	0	PALM
1	1	PAL

0 ; LOW LEVEL
1 ; HIGH LEVEL

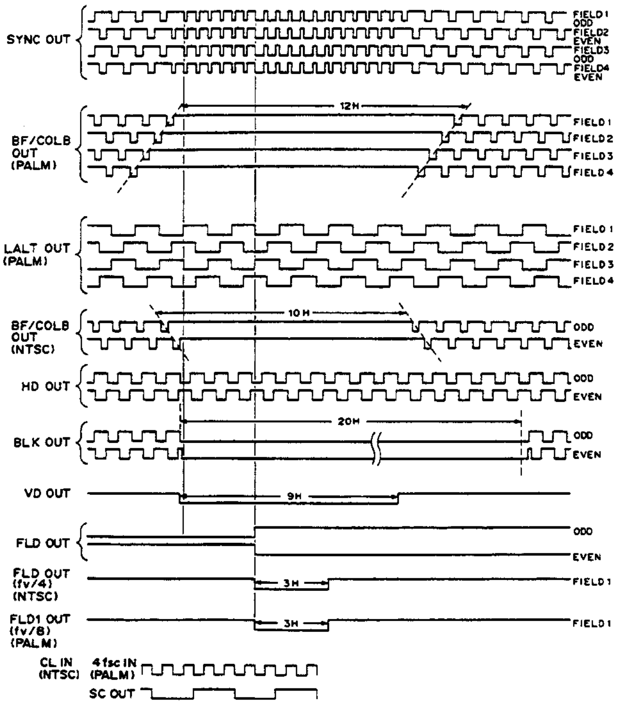

4fSC IN 10
4fSC OUT 9
1/9
1/101
1/4
INT-N
19 OSC
PM
P
PHASE COMP
INT-N
HCOM 24
OFF SET
1/7
1/8
2fH
1/2
fH
SC RESET
TEST 16
EXT 20
P :1/625
PM:1/525
1/4
FIELD1 RESET
CL IN 26
CL OUT 25
1/4
SC RESET
P,S :1/454
N,PM:1/455
2fH
P,S :1/625
N,PM:1/525
CONT F.F.
1/2
fH
OUTPUT F.F.
7 OLALT
8 OHD
2 OFLD1
5 OFLD
3 OBF/COLB
6 OBLK
4 OSYNC
12 OVD
27 OFH
17 O2FH
HRI 23
H RESET
VRI 1
V RESET
LALTRI 15
LALT RESET
MODE1 21
MODE2 22
DECODE
N
P
PM
S

N : NTSC
P : PAL
PM : PALM
S : SECAM

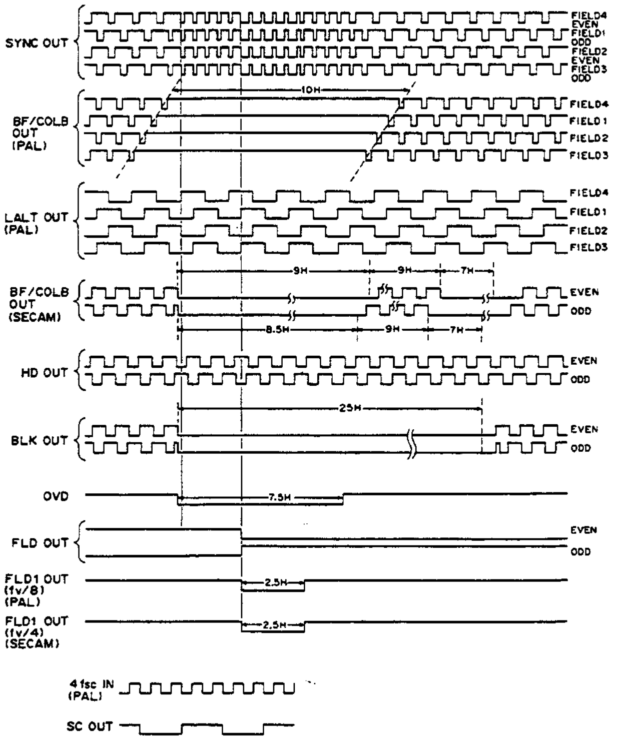
INPUT
4fSC IN : 4fSC INPUT
CL IN : CLOCK INPUT
EXT : SYNC MODE SELECT
(L ; INTERNAL/H ; EXTERNAL)
HRI : H RESET
LALTRI : LINE CHANGE RESET
MODE 1,2 : SYSTEM SELECT
VRI : V RESET

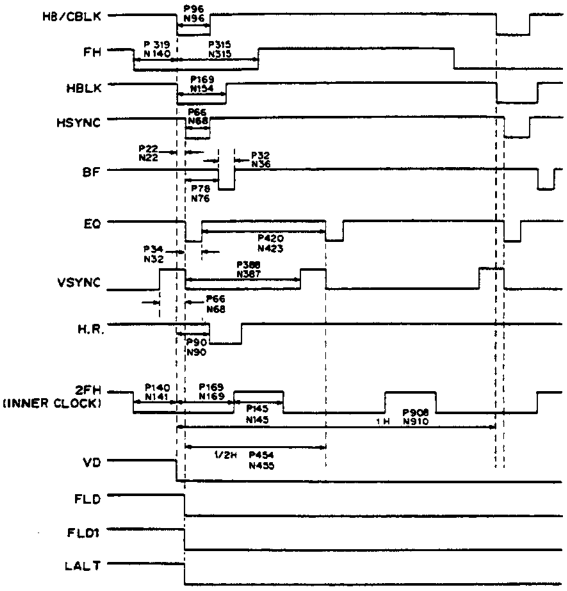
OUT PUT
4fSC OUT : 4fSC OUTPUT
CL OUT : CLOCK OUTPUT
HCOM : PHASE COMPARATOR
O2fH : 2fH OUTPUT
OBF/COLB: BURST FLAG/COLOR BLANKING
OBLK : COMPOSITE BLANKING
OFH : H FREQUENCE
OFLD : EVEN, ODD
OFLD1 : FIELD1
OHD : H DRIVE
OLALT : LINE CHANGE
OSC : SUBCARRIER
OSYNC : COMPOSITE SYNC
OVD : V DRIVE

(NTSC, PALM)



(PAL, SECAM)

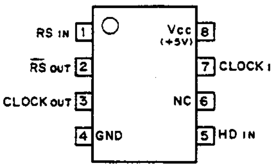


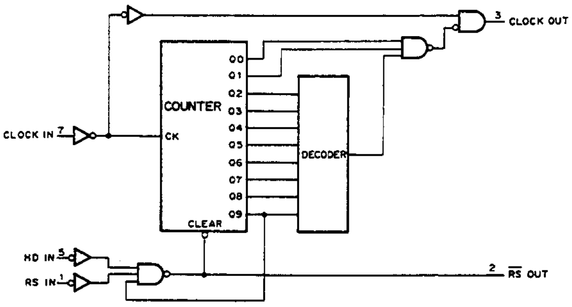

HB/CBLK
P96
N96
FH
P 319
N 140
P315
N315
HBLK
P169
N154
HSYNC
P66
N68
P22
N22
P32
N36
BF
P78
N76
EQ
P420
N423
P34
N32
P388
N387
VSYNC
P66
N68
H.R.
P90
N90
2FH
(INNER CLOCK)
P140
N141
P169
N169
P145
N145
P908
1H N910
1/2H P454
N455
VD
FLD
FLD1
LALT

P: PAL, SECAM
N: NTSC, PALM

CXD1361M (TI) FLAT PACKAGE

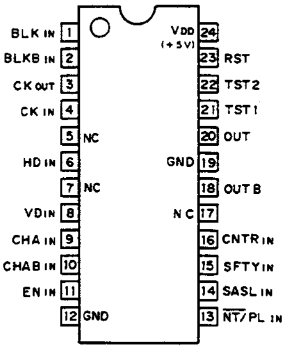
CLOCK CONTROLLER
– TOP VIEW –

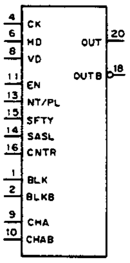

RS IN 1
RS OUT 2
CLOCK OUT 3
4 GND
Vcc (+5V) 8
7 CLOCK IN
NC 6
5 HD IN


3 CLOCK OUT
COUNTER
Q0
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
CK
CLEAR
DECODER
CLOCK IN 7
HD IN 5
RS IN 1
2 RS OUT

CXD8154M (SONY)

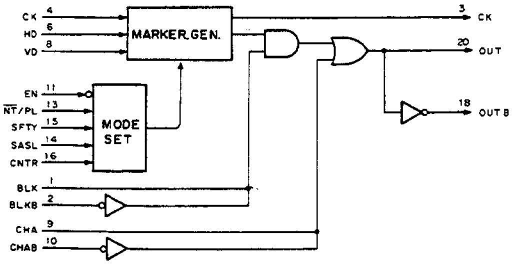
C-MOS GATE ARRAY
– TOP VIEW –


BLK IN 1
BLKB IN 2
CK OUT 3
CK IN 4
5 NC
HD IN 6
7 NC
VDIN 8
CHA IN 9
CHAB IN 10
EN IN 11
12 GND
VDD (+5V) 24
23 RST
22 TST2
21 TST1
20 OUT
GND 19
18 OUT B
NC 17
16 CNTR IN
15 SFTY IN
14 SASL IN
13 NT/PL IN

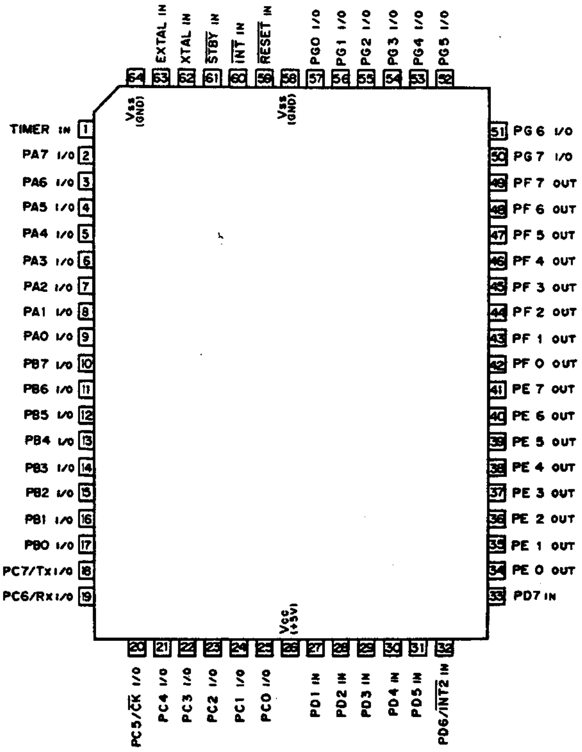

4 CK
6 HD
8 VD
11 EN
13 NT/PL
15 SFTY
14 SASL
16 CNTR
1 BLK
2 BLKB
9 CHA
10 CHAB
OUT 20
OUTB 18

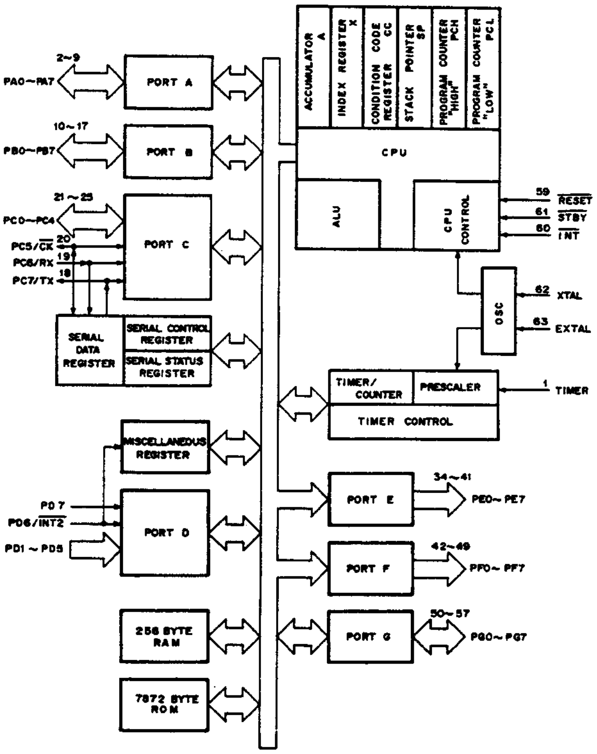
INPUT
BLK : BLKG IN
BLKB : BLKG IN
CHA : CHR IN
CHAB : CHR IN
CK : CLOCK IN
CNTR : CENTER ON/OFF
EN : ENABLE IN
HD : HORIZONTAL DRIVE IN
NT/PL : NTSC/PAL
RST : RESET
SASL : SAFETY 80/90
SFTY : SAFETY ON/OFF
VD : VERTICAL DRIVE IN
TST1 : TEST 1
TST2 : TEST 2

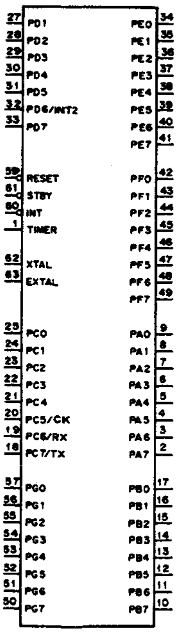
OUTPUT
OUT : OUTPUT
OUTB : OUTPUT
CKO : CLOCK OUT


CK 4
HD 6
VD 8
MARKER.GEN.
3 CK
20 OUT
18 OUT B
EN 11
NT/PL 13
SFTY 15
SASL 14
CNTR 16
MODE SET
BLK 1
BLKB 2
CHA 9
CHAB 10

HD6305Y0E27F (HITACHI)
C-MOS 8-BIT MICROPROCESSOR UNIT
- TOP VIEW -

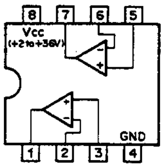

64 Vss (GND)
63 EXTAL IN
62 XTAL IN
61 STBY IN
60 INT IN
59 RESET IN
58 Vss (GND)
57 PG0 I/O
56 PG1 I/O
55 PG2 I/O
54 PG3 I/O
53 PG4 I/O
52 PG5 I/O
1 TIMER IN
2 PA7 I/O
3 PA6 I/O
4 PA5 I/O
5 PA4 I/O
6 PA3 I/O
7 PA2 I/O
8 PA1 I/O
9 PA0 I/O
10 PB7 I/O
11 PB6 I/O
12 PB5 I/O
13 PB4 I/O
14 PB3 I/O
15 PB2 I/O
16 PB1 I/O
17 PB0 I/O
18 PC7/Tx I/O
19 PC6/Rx I/O
51 PG6 I/O
50 PG7 I/O
49 PF7 OUT
48 PF6 OUT
47 PF5 OUT
46 PF4 OUT
45 PF3 OUT
44 PF2 OUT
43 PF1 OUT
42 PF0 OUT
41 PE7 OUT
40 PE6 OUT
39 PE5 OUT
38 PE4 OUT
37 PE3 OUT
36 PE2 OUT
35 PE1 OUT
34 PE0 OUT
33 PD7 IN
Vcc (+5V)
20 PC5/CK I/O
21 PC4 I/O
22 PC3 I/O
23 PC2 I/O
24 PC1 I/O
25 PC0 I/O
26
27 PD1 IN
28 PD2 IN
29 PD3 IN
30 PD4 IN
31 PD5 IN
32 PD6/INT2 IN


ACCUMULATOR A
INDEX REGISTER X
CONDITION CODE REGISTER CC
STACK POINTER SP
PROGRAM COUNTER "HIGH" PCH
PROGRAM COUNTER "LOW" PCL
PA0~PA7
2~9
PORT A
PB0~PB7
10~17
PORT B
PC0~PC4
21~25
PC5/CK
PC6/RX
PC7/TX
20
19
18
PORT C
CPU
ALU
CPU CONTROL
59 RESET
61 STBY
60 INT
OSC
62 XTAL
63 EXTAL
SERIAL DATA REGISTER
SERIAL CONTROL REGISTER
SERIAL STATUS REGISTER
TIMER/COUNTER
PRESCALER
1 TIMER
TIMER CONTROL
MISCELLANEOUS REGISTER
PD7
PD6/INT2
PD1~PD5
PORT D
PORT E
34~41
PE0~PE7
PORT F
42~49
PF0~PF7
256 BYTE RAM
PORT G
50~57
PG0~PG7
7872 BYTE ROM

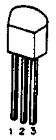

27 PD1
28 PD2
29 PD3
30 PD4
31 PD5
32 PD6/INT2
33 PD7
59 RESET
61 STBY
60 INT
1 TIMER
62 XTAL
63 EXTAL
25 PC0
24 PC1
23 PC2
22 PC3
21 PC4
20 PC5/CK
19 PC6/RX
18 PC7/TX
57 PG0
56 PG1
55 PG2
54 PG3
53 PG4
52 PG5
51 PG6
50 PG7
PE0 34
PE1 35
PE2 36
PE3 37
PE4 38
PE5 39
PE6 40
PE7 41
PF0 42
PF1 43
PF2 44
PF3 45
PF4 46
PF5 47
PF6 48
PF7 49
PA0 9
PA1 8
PA2 7
PA3 6
PA4 5
PA5 4
PA6 3
PA7 2
PB0 17
PB1 16
PB2 15
PB3 14
PB4 13
PB5 12
PB6 11
PB7 10

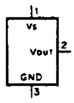
PA0~PA7 : 8-BIT I/O PORT A
PB0~PB7 : 8-BIT I/O PORT B
PC0~PC7 : 8-BIT I/O PORT C
PD1~PD7 : 7-BIT IN PORT D
PE0~PE7 : 8-BIT OUT PORT E
PF0~PF7 : 8-BIT OUT PORT F
PG0~PG7 : 8-BIT I/O PORT G
RESET : RESET IN
STBY : STANDBY IN
INT : INTERRUPT IN
INT2 : INTERRUPT IN
TIMER : TIMER CONTROL IN
XTAL : CRYSTAL
EXTAL : EXTERNAL CRYSTAL IN
CK : SERIAL INTERFACE CLOCK I/O
RX : SERIAL DATA RECEIVE
TX : SERIAL DATA TRANSMIT

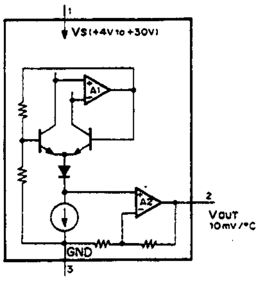
LM2903M (RAYTHEON) FLAT PACKAGE
DUAL VOLTAGE COMPARATORS
- TOP VIEW -


8
7
6
5
Vcc (+2 to +36V)
GND
1
2
3
4

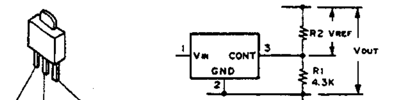
LM35DZ (NS)
BIPOLAR TEMPERATURE SENSOR




1
Vs
Vout
2
GND
3


1
Vs (+4V to +30V)
A1
A2
2
Vout
10mV/°C
GND
3

M5236ML (MITSUBISHI)
ADJUSTABLE VOLTAGE REGULATOR


CONT (3)
GND (2)
VIN (1)
1
VIN
CONT
3
GND
2
R2 VREF
R1 4.3K
VOUT

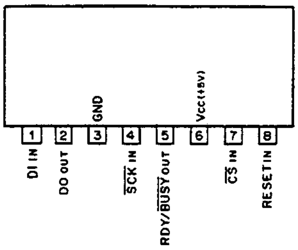
$V_{IN} = 3.5V \sim 36V$

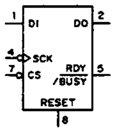
$V_{OUT} = 1.5V \sim 33V$

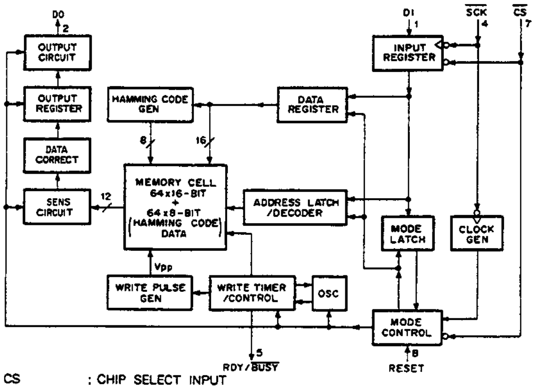
$V_{OUT} = V_{REF}(1+\frac{R2}{R1}) \fallingdotseq 1.26 \times (1+\frac{R2}{4.3})(V)$

$(R1 = 4.3K\Omega,\ V_{REF} \fallingdotseq 1.26V)$

M6M80011L (MITSUBISHI)
1k (64x16)-BIT ERASABLE PROM
- SIDE VIEW -

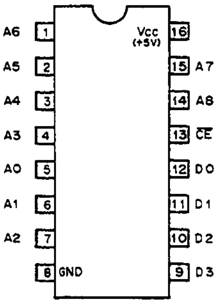

GND
Vcc(+5V)
1 DI IN
2 DO OUT
3
4 SCK IN
5 RDY/BUSY OUT
6
7 CS IN
8 RESET IN

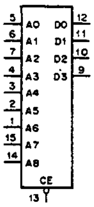

1 DI
DO 2
4 SCK
7 CS
RDY/BUSY 5
RESET
8

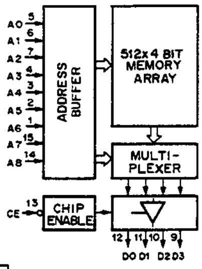

DO
2
OUTPUT CIRCUIT
OUTPUT REGISTER
DATA CORRECT
SENS CIRCUIT
HAMMING CODE GEN
6
16
12
MEMORY CELL 64x16-BIT + 64x8-BIT (HAMMING CODE) DATA
Vpp
WRITE PULSE GEN
WRITE TIMER /CONTROL
OSC
DATA REGISTER
ADDRESS LATCH /DECODER
DI
1
SCK
4
CS
7
INPUT REGISTER
MODE LATCH
CLOCK GEN
MODE CONTROL
5
RDY/BUSY
8
RESET

CS	: CHIP SELECT INPUT
DI	: DATA INPUT
DO	: DATA OUTPUT
RDY/BUSY	: BUSY OUTPUT
RESET	: RESET INPUT
SCK	: CLOCK INPUT

MB7116H (FUJITSU)
2K (512x4)-BIT PROM WITH 3-STATE OUTPUTS
- TOP VIEW -


A6 1
A5 2
A4 3
A3 4
A0 5
A1 6
A2 7
8 GND
Vcc (+5V) 16
15 A7
14 A8
13 CE
12 DO
11 D1
10 D2
9 D3


5 A0
6 A1
7 A2
4 A3
3 A4
2 A5
1 A6
15 A7
14 A8
DO 12
D1 11
D2 10
D3 9
CE
13

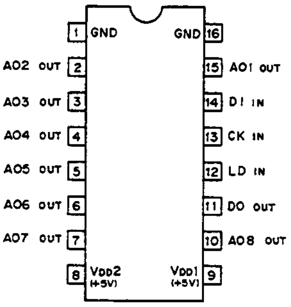

A0 5
A1 6
A2 7
A3 4
A4 3
A5 2
A6 1
A7 15
A8 14
ADDRESS BUFFER
512x4 BIT MEMORY ARRAY
MULTI-PLEXER
CE 13
CHIP ENABLE
12 11 10 9
DO D1 D2 D3

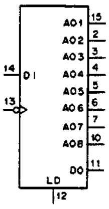
CE	OUTPUT
0	ENABLE
1	HI-Z

A0-A8; ADDRESS INPUTS
D0-D3; DATA OUTPUTS
CE ; CHIP ENABLE INPUT

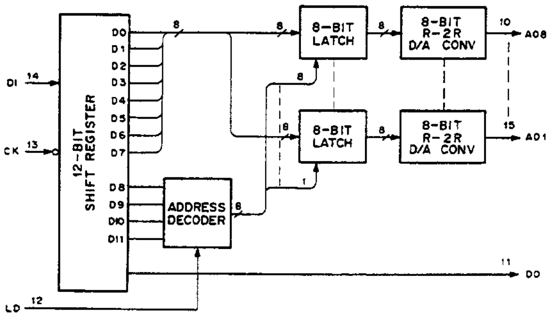
0 ; LOW LEVEL
1 ; HIGH LEVEL
HI-Z ; HIGH IMPEDANCE

MB88342PF (FUJITSU) FLAT PACKAGE
C-MOS 8-BIT D/A CONVERTER
- TOP VIEW -

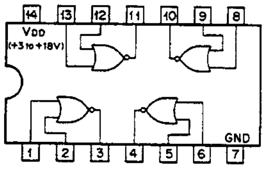

1 GND
AO2 OUT 2
AO3 OUT 3
AO4 OUT 4
AO5 OUT 5
AO6 OUT 6
AO7 OUT 7
8 VDD2 (+5V)
GND 16
15 AO1 OUT
14 DI IN
13 CK IN
12 LD IN
11 DO OUT
10 AO8 OUT
VDD1 (+5V) 9

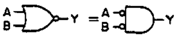

14 DI
13
AO1 15
AO2 2
AO3 3
AO4 4
AO5 5
AO6 6
AO7 7
AO8 10
DO 11
LD
12

AO1 - AO8	: 8-BIT D/A OUTPUTS
CK	: CLOCK INPUT
DI	: SERIAL DATA INPUT
DO	: DATA OUTPUT
LD	: DATA LOAD CONTROL INPUT (H : LOAD)


DI 14
CK 13
LD 12
12-BIT SHIFT REGISTER
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
8
ADDRESS DECODER
8-BIT LATCH
8-BIT R-2R D/A CONV
10 AO8
15 AO1
11 DO

MC14001BF (MOTOROLA) FLAT PACKAGE
C-MOS 2-INPUT NOR GATE
- TOP VIEW -


14 13 12 11 10 9 8
VDD (+3 to +18V)
GND
1 2 3 4 5 6 7

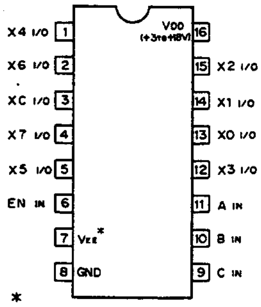


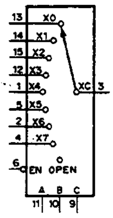
$Y = \overline{A+B} = \overline{A} \cdot \overline{B}$

A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

MC14051BF (MOTOROLA) FLAT PACKAGE
C-MOS 8-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER
- TOP VIEW -


X4 I/O 1
X6 I/O 2
XC I/O 3
X7 I/O 4
X5 I/O 5
EN IN 6
7 VEE*
8 GND
VDD (+3 to +18V) 16
15 X2 I/O
14 X1 I/O
13 X0 I/O
12 X3 I/O
11 A IN
10 B IN
9 C IN


13 X0
14 X1
15 X2
12 X3
1 X4
5 X5
2 X6
4 X7
XC 3
6 EN OPEN
A B C
11 10 9

CONTROL INPUTS				SELECTED CHANNEL
EN	SELECT			
	C	B	A	
0	0	0	0	X0
0	0	0	1	X1
0	0	1	0	X2
0	0	1	1	X3
0	1	0	0	X4
0	1	0	1	X5
0	1	1	0	X6
0	1	1	1	X7
1	X	X	X	OPEN

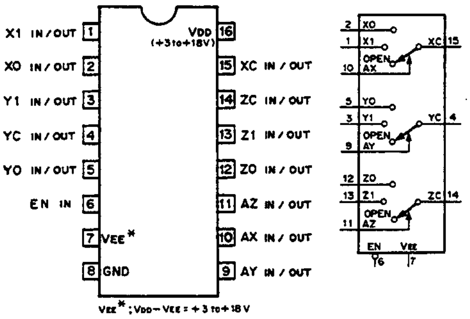
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

X0 to X7;	ANALOG INPUTS/OUTPUTS
XC;	COMMON INPUT/OUTPUT
A,B,C;	CHANNEL SELECT INPUT
EN;	ENABLE INPUT

* V_{EE} ; $V_{DD} - V_{EE} = +3$ to $+18V$

MC14053BF (MOTOROLA) FLAT PACKAGE

C-MOS TRIPLE 2-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER
– TOP VIEW –


X1 IN/OUT 1
X0 IN/OUT 2
Y1 IN/OUT 3
YC IN/OUT 4
Y0 IN/OUT 5
EN IN 6
7 VEE*
8 GND
VDD (+3 to +18V) 16
15 XC IN/OUT
14 ZC IN/OUT
13 Z1 IN/OUT
12 Z0 IN/OUT
11 AZ IN/OUT
10 AX IN/OUT
9 AY IN/OUT
2 X0
1 X1
10 OPEN AX
XC 15
5 Y0
3 Y1
9 OPEN AY
YC 4
12 Z0
13 Z1
11 OPEN AZ
ZC 14
EN 6
VEE 7

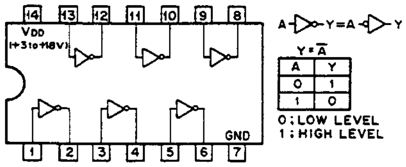
VEE*; VDD − VEE = +3 to +18 V

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

CONT. INPUTS		ON CHANNEL
EN	A (X,Y,Z,)	
0	0	0
0	1	1
1	X	OPEN

MC14069UBF (MOTOROLA)

C-MOS INVERTER
– TOP VIEW –


14
13
12
11
10
9
8
VDD (+3 to +18V)
GND
1
2
3
4
5
6
7
A
Y
A
Y

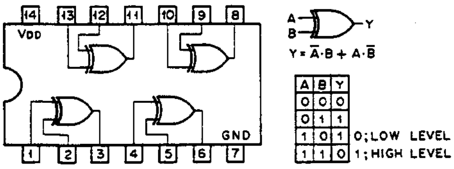
$Y = \overline{A}$

A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL

MC74HC86F (MOTOROLA) FLAT PACKAGE
SN74HC86NS (TI) FLAT PACKAGE

C-MOS EXCLUSIVE OR GATE
– TOP VIEW –


14
13
12
11
10
9
8
VDD
GND
1
2
3
4
5
6
7
A
B
Y

$Y = \overline{A} \cdot B + A \cdot \overline{B}$

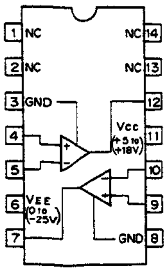
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

TYPE	VDD
TC74AC86F	+2 to +5.5V
OTHER TYPES	+2 to +6V

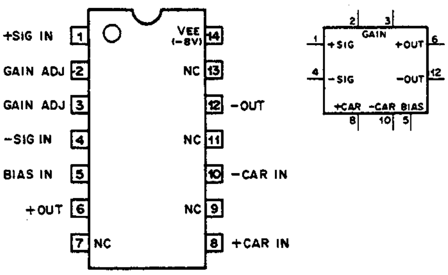
NJM319M (JRC) FLAT PACKAGE

DUAL VOLTAGE COMPARATOR
– TOP VIEW –


1 NC
2 NC
3 GND
4
5
6 VEE (0 to −25V)
7
NC 14
NC 13
12
Vcc (+5 to +18V) 11
10
9
GND 8

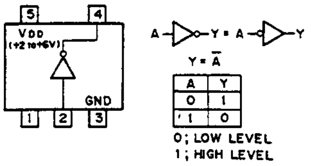
RC1496M (RAYTHEON) FLAT PACKAGE

BALANCED MODULATOR/DEMODULATOR
– TOP VIEW –


+SIG IN 1
GAIN ADJ 2
GAIN ADJ 3
−SIG IN 4
BIAS IN 5
+OUT 6
7 NC
VEE (−8V) 14
NC 13
12 −OUT
NC 11
10 −CAR IN
NC 9
8 +CAR IN
2
3
GAIN
1 +SIG
+OUT 6
4 −SIG
−OUT 12
+CAR
−CAR
BIAS
8
10
5

SC7S04F (MOTOROLA) FLAT PACKAGE
TC7S04F (TOSHIBA) FLAT PACKAGE

C-MOS INVERTER
– TOP VIEW –


5
4
VDD (+2 to +6V)
GND
1
2
3
A
Y
A
Y

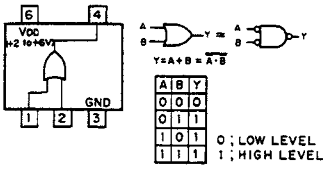
$Y = \overline{A}$

A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL

SC7S32F (MOTOROLA) FLAT PACKAGE
TC7S32F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT OR GATE
– TOP VIEW –


6
4
VDD (+2 to +6V)
GND
1
2
3
A
B
Y
A
B
Y

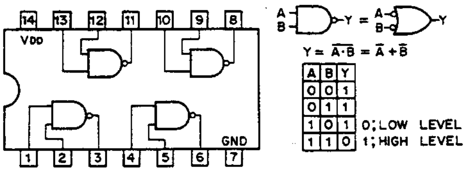
$Y = A + B = \overline{\overline{A} \cdot \overline{B}}$

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

0; LOW LEVEL
1; HIGH LEVEL

SN74HC00NS (TI) FLAT PACKAGE

C-MOS QUAD 2-INPUT NAND GATE
– TOP VIEW –


14
13
12
11
10
9
8
VDD
GND
1
2
3
4
5
6
7
A
B
Y
A
B
Y

$Y = \overline{A \cdot B} = \overline{A} + \overline{B}$

A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

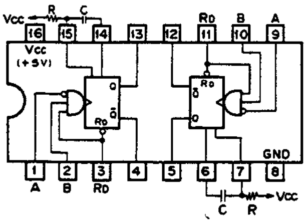
0; LOW LEVEL
1; HIGH LEVEL

NOTE:

TYPE	VDD
TC74AC00P TC74AC00F	+2 to +5.5V
MC74HCT00N 74ACT00PC	+5V
OTHER TYPES	+2 to +6V

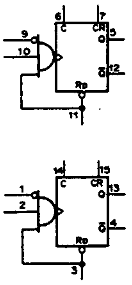
SN74LS123NS (TI) FLAT PACKAGE

TTL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR WITH DIRECT RESET
- TOP VIEW -

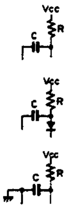

Vcc
R
C
RD
B
A
16
15
14
13
12
11
10
9
Vcc
(+5V)
Q
RD
Q̄
GND
1
2
3
4
5
6
7
8
A
B
RD
C
R
Vcc

INPUTS			OUTPUTS	
RD	A	B	Q	Q̄
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⎍	⊔
1	↓	1	⎍	⊔
↑	0	1	⎍	⊔

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE


6
7
9
10
C
CR
Q
5
Q̄
12
RD
11
14
15
1
2
C
CR
Q
13
Q̄
4
RD
3

OUTPUT PULSE WIDTH


Vcc
C
R
Vcc
C
R
Vcc
C
R

'123 ; $T_W = 0.28\left(1+\frac{700}{R}\right)CR$

'L123; $T_W = 0.33\left(1+\frac{700}{R}\right)CR$

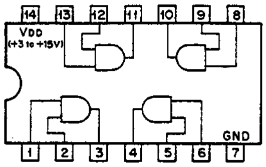
'123 ; $T_W = 0.25\left(1+\frac{700}{R}\right)CR$

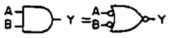
'L123; $T_W = 0.29\left(1+\frac{700}{R}\right)CR$

'LS123; $T_W = 0.45CR$

TC4081BF (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT AND GATE
- TOP VIEW -


14
13
12
11
10
9
8
VDD
(+3 to +15V)
GND
1
2
3
4
5
6
7



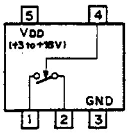
$Y = A\cdot B = \overline{\overline{A}+\overline{B}}$

A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0: LOW LEVEL
1: HIGH LEVEL

TC4S66F (TOSHIBA)

C-MOS BILATERAL ANALOG SWITCH
- TOP VIEW -


5
4
VDD
(+3 to +18V)
GND
1
2
3

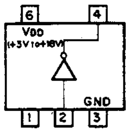
IN/OUT
IN/OUT
CONTROL

CONTROL	SWITCH
0	OFF
1	ON

0; LOW LEVEL
1; HIGH LEVEL

TC4SU69F (TOSHIBA) FLAT PACKAGE

C-MOS INVERTER BUFFER
- TOP VIEW -


6
4
VDD
(+3V to +18V)
GND
1
2
3

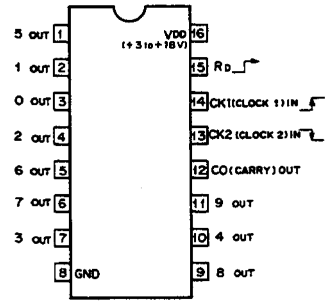
$Y = \overline{A}$

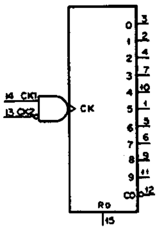
A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL

TC4017BF (TOSHIBA) FLAT PACKAGE

C-MOS DECADE COUNTER/DIVIDER
- TOP VIEW -


5 OUT 1
1 OUT 2
0 OUT 3
2 OUT 4
6 OUT 5
7 OUT 6
3 OUT 7
8 GND
VDD 16
(+3 to +18V)
15 RD
14 CK1 (CLOCK 1) IN
13 CK2 (CLOCK 2) IN
12 CO (CARRY) OUT
11 9 OUT
10 4 OUT
9 8 OUT

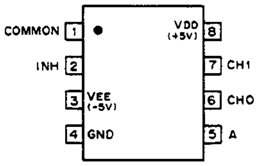

14 CK1
13 CK2
CK
0
1
2
3
4
5
6
7
8
9
CO
RD
3
2
4
7
10
1
5
6
9
11
12
15

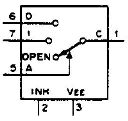
COUNT	INPUTS		OUTPUTS										
	RD	CK1·CK2	9	8	7	6	5	4	3	2	1	0	CO
0	1	X	0	0	0	0	0	0	0	0	0	1	1
0	0	↑	0	0	0	0	0	0	0	0	0	1	1
1	0	↑	0	0	0	0	0	0	0	0	1	0	1
2	0	↑	0	0	0	0	0	0	0	1	0	0	1
3	0	↑	0	0	0	0	0	0	1	0	0	0	1
4	0	↑	0	0	0	0	0	1	0	0	0	0	1
5	0	↑	0	0	0	0	1	0	0	0	0	0	0
6	0	↑	0	0	0	1	0	0	0	0	0	0	0
7	0	↑	0	0	1	0	0	0	0	0	0	0	0
8	0	↑	0	1	0	0	0	0	0	0	0	0	0
9	0	↑	1	0	0	0	0	0	0	0	0	0	0
NO COUNT	0	1	NO CHANGE										
	0	0											

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

TC4W53F (TOSHIBA) FLAT PACKAGE

C-MOS 2-CHANNEL MULTIPLEXER/DEMULTIPLEXER
- TOP VIEW -


COMMON 1
INH 2
3 VEE (-5V)
4 GND
VDD (+5V) 8
7 CH1
6 CH0
5 A

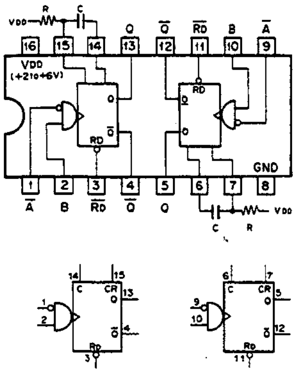

6
0
7
1
C
1
OPEN
5
A
INH
VEE
2
3

0: LOW LEVEL
1: HIGH LEVEL
X: DON'T CARE

CONT. INPUT		ON CHANNEL
INH	A	
0	0	0
0	1	1
1	X	OPEN

TC74HC123AF (TOSHIBA) FLAT PACKAGE

C-MOS DUAL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR
- TOP VIEW -


R
C
VDD
Q
$\overline{Q}$
$\overline{RD}$
B
$\overline{A}$
16
15
14
13
12
11
10
9
VDD
(+2 to +6V)
RD
GND
1
2
3
4
5
6
7
8
$\overline{A}$
B
$\overline{RD}$
$\overline{Q}$
Q
C
R
VDD
C
CR
RD
14
15
13
1
2
3
4
6
7
5
9
10
12
11

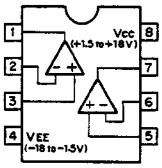
INPUT			OUTPUT	
RD	A	B	Q	$\overline{Q}$
0	X	X	0	1
1	1	X	0	1
1	X	0	0	1
1	0	↑	⊓	⊔
1	↓	1	⊓	⊔
↑	0	1	⊓	⊔

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

OUTPUT PULSE WIDTH = 0.46CR

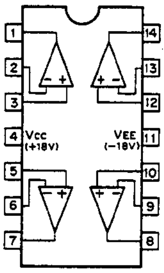
TL062CPS (TI) FLAT PACKAGE

OPERATIONAL AMPLIFIER
(JFET INPUT)
- TOP VIEW -


1
2
3
4
8
7
6
5
Vcc
(+1.5 to +18V)
VEE
(−18 to −1.5V)

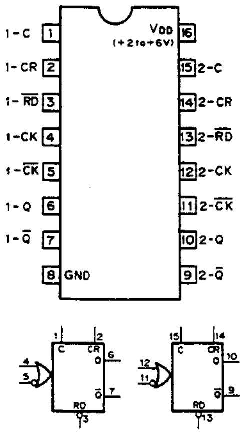
TL064CNS (TI) FLAT PACKAGE

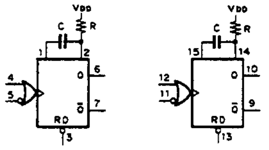
OPERATIONAL AMPLIFIER
(J FET-INPUT)
- TOP VIEW -


1
2
3
4
5
6
7
14
13
12
11
10
9
8
Vcc
(+18V)
VEE
(−18V)

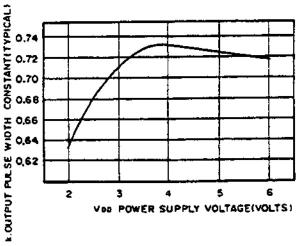
TC74HC4538AF (TOSHIBA) FLAT PACKAGE

C-MOS DUAL RETRIGGERABLE/NON-RETRIGGERABLE MONOSTABLE MULTIVIBRATOR
- TOP VIEW -


1-C
1-CR
1-$\overline{RD}$
1-CK
1-$\overline{CK}$
1-Q
1-$\overline{Q}$
GND
VDD
(+2 to +6V)
2-C
2-CR
2-$\overline{RD}$
2-CK
2-$\overline{CK}$
2-Q
2-$\overline{Q}$
1
2
3
4
5
6
7
8
16
15
14
13
12
11
10
9
C
CR
RD
Q
$\overline{Q}$

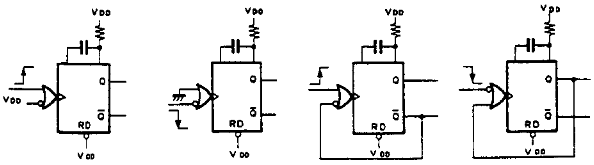

VDD
C
R
1
2
4
5
6
7
3
RD
Q
$\overline{Q}$
VDD
C
R
15
14
12
11
10
9
13

OUTPUT PULSE WIDTH= k·C·R



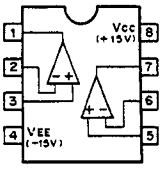
RETRIGGERABLE M.M.V

NON-RETRIGGERABLE M.M.V


VDD
Q
$\overline{Q}$
RD
VDD

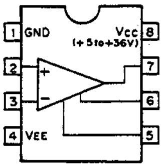
TL082CPS (TI) FLAT PACKAGE

OPERATIONAL AMPLIFIER
(J FET-INPUT)
- TOP VIEW -


1
2
3
4
8
7
6
5
Vcc
(+15V)
VEE
(−15V)

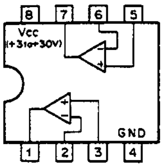
uPC311G2 (NEC) FLAT PACKAGE

VOLTAGE COMPARATOR
- TOP VIEW -


1
2
3
4
8
7
6
5
GND
Vcc
(+5 to +36V)
VEE

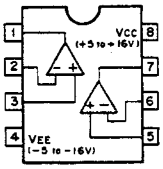
uPC358G2 (NEC) FLAT PACKAGE

DUAL OPERATIONAL AMPLIFIERS
- TOP VIEW -


8
7
6
5
Vcc
(+3 to +30V)
GND
1
2
3
4

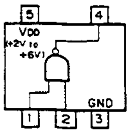
uPC812G2 (NEC) FLAT PACKAGE

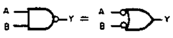
OPERATIONAL AMPLIFIER (JFET INPUT)
- TOP VIEW -


1
2
3
4
8
7
6
5
Vcc
(+5 to +16V)
VEE
(−5 to −16V)

TC7S00F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT NAND GATE
- TOP VIEW -


5
4
VDD
(+2V to +6V)
GND
1
2
3



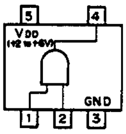
$Y = \overline{A \cdot B} = \overline{A} + \overline{B}$

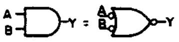
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

TC7S08F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT AND GATE
- TOP VIEW -


5
4
VDD
(+2 to +6V)
GND
1
2
3



$Y = A \cdot B = \overline{\overline{A} + \overline{B}}$

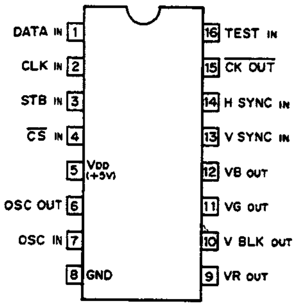
A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

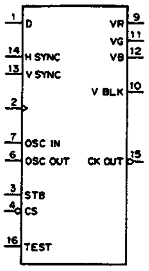
0; LOW LEVEL
1 ; HIGH LEVEL

uPD6142G-101 (NEC) FLAT PACKAGE

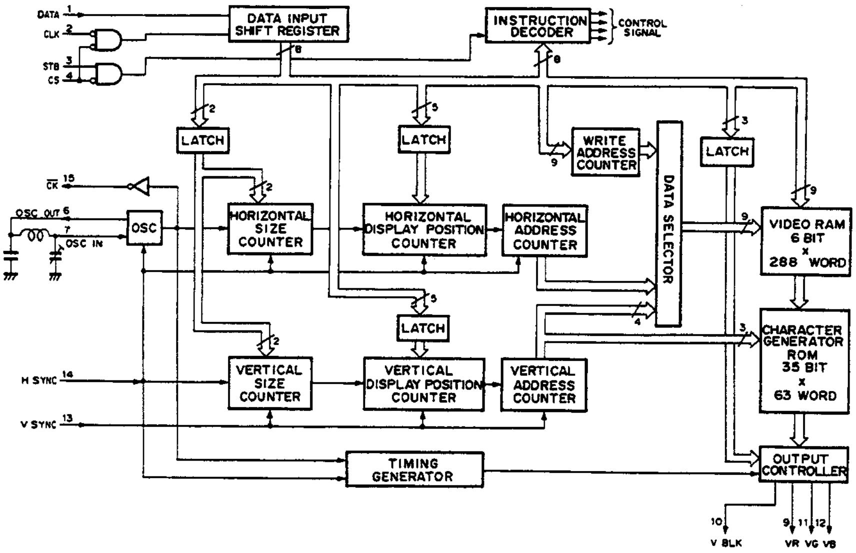
C-MOS 8-BIT SERIALL INPUT CHARACTER DISPLAY

– TOP VIEW –

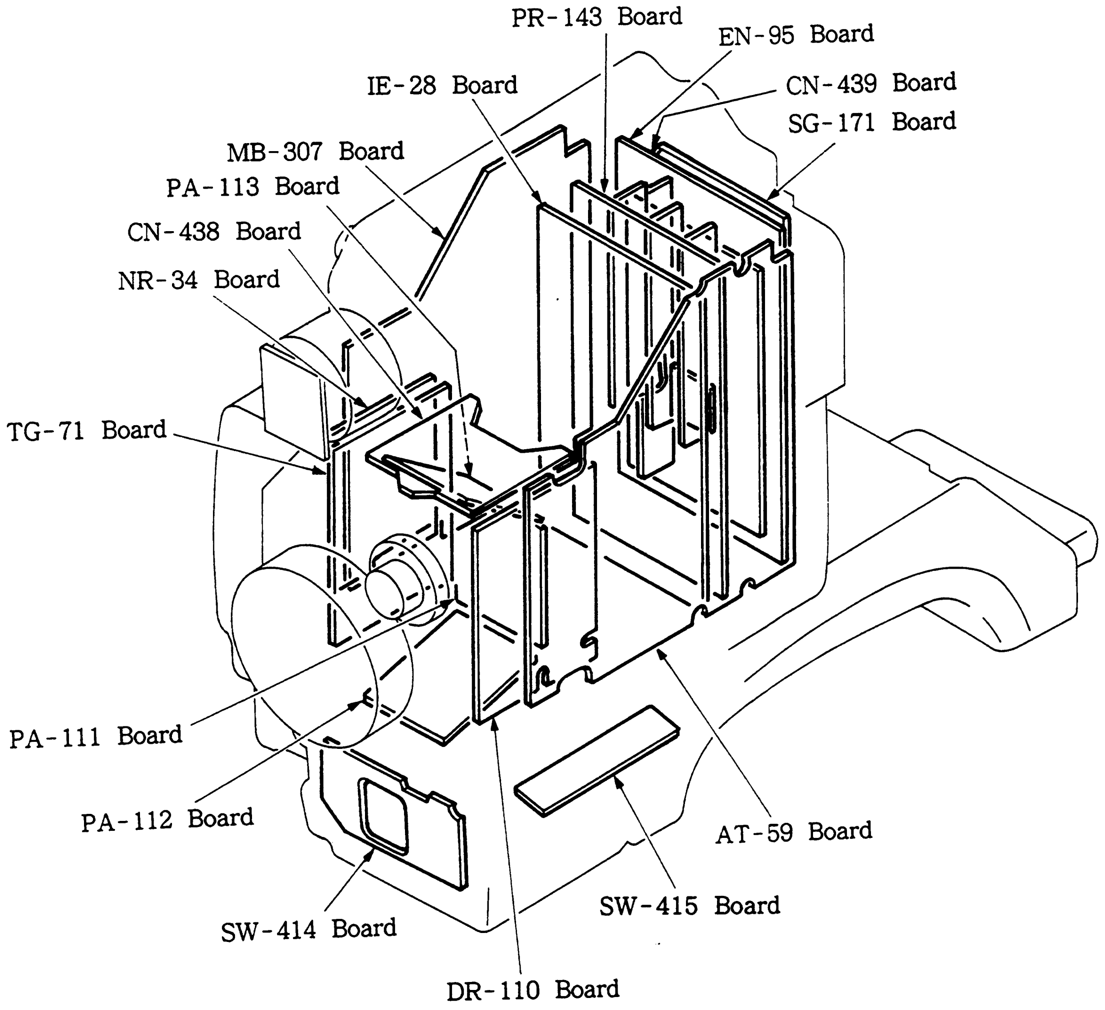

DATA IN 1
CLK IN 2
STB IN 3
CS IN 4
5 VDD (+5V)
OSC OUT 6
OSC IN 7
8 GND
16 TEST IN
15 CK OUT
14 H SYNC IN
13 V SYNC IN
12 VB OUT
11 VG OUT
10 V BLK OUT
9 VR OUT


1 D
14 H SYNC
13 V SYNC
2
7 OSC IN
6 OSC OUT
3 STB
4 CS
16 TEST
VR 9
VG 11
VB 12
V BLK 10
CK OUT 15

D; DATA INPUT
CK OUT; EQUAL TO OUTPUT OF OSC OUT
CLK; CLOCK INPUT
CS; CHIP SELECT INPUT
H SYNC; H SYNC INPUT
OSC IN, OUT; EXTERNAL TERMINAL FOR OSC
STB; STROBE INPUT
TEST; TEST CLOCK INPUT
VB; BLUE CHARACTER DATA OUTPUT
V BLK; V BLANKING OUTPUT
VG; GREEN CHARACTER DATA OUTPUT
VR; RED CHARACTER DATA OUTPUT
V SYNC; V SYNC INPUT

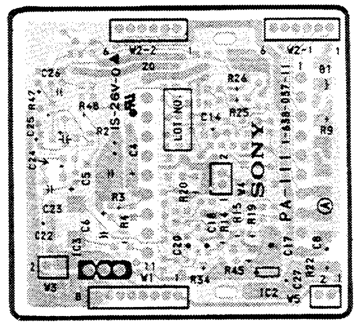

DATA 1
CLK 2
STB 3
CS 4
DATA INPUT SHIFT REGISTER
8
INSTRUCTION DECODER
CONTROL SIGNAL
8
2
LATCH
5
LATCH
WRITE ADDRESS COUNTER
9
DATA SELECTOR
3
LATCH
9
CK 15
OSC OUT 6
7
OSC IN
OSC
2
HORIZONTAL SIZE COUNTER
HORIZONTAL DISPLAY POSITION COUNTER
HORIZONTAL ADDRESS COUNTER
9
VIDEO RAM 6 BIT x 288 WORD
5
LATCH
4
3
CHARACTER GENERATOR ROM 35 BIT x 63 WORD
2
H SYNC 14
VERTICAL SIZE COUNTER
VERTICAL DISPLAY POSITION COUNTER
VERTICAL ADDRESS COUNTER
V SYNC 13
TIMING GENERATOR
OUTPUT CONTROLLER
10
V BLK
9 11 12
VR VG VB

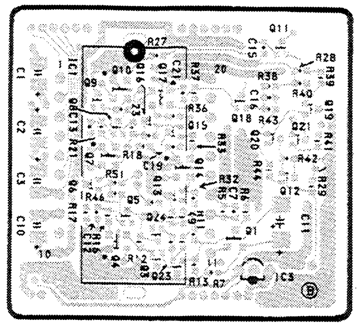
SECTION C
SCHEMATIC DIAGRAMS AND BOARD ILLUSTRATIONS


PR-143 Board
EN-95 Board
IE-28 Board
CN-439 Board
SG-171 Board
MB-307 Board
PA-113 Board
CN-438 Board
NR-34 Board
TG-71 Board
PA-111 Board
PA-112 Board
SW-414 Board
DR-110 Board
SW-415 Board
AT-59 Board

S/N J ; 30001 through 30590
UC; 10001 through 10840
EK; 40001 through 40690

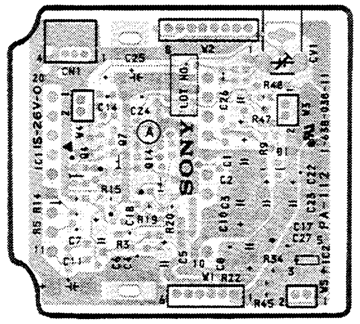
PA-111 BOARD

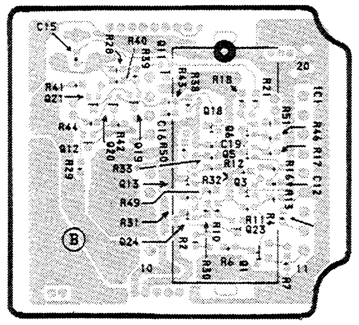




1-638-037-11 SOLDERING SIDE

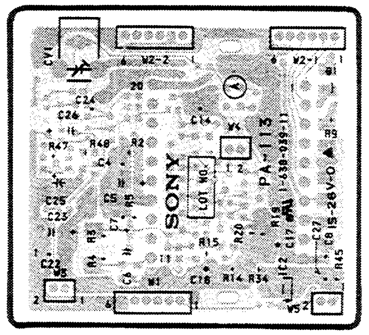
PA-112 BOARD

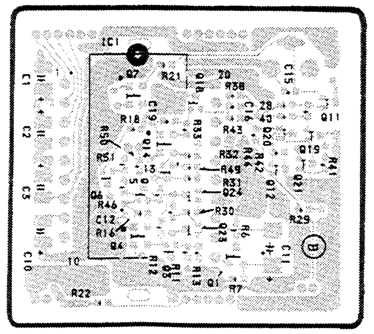




1-638-038-11 SOLDERING SIDE

PA-113 BOARD



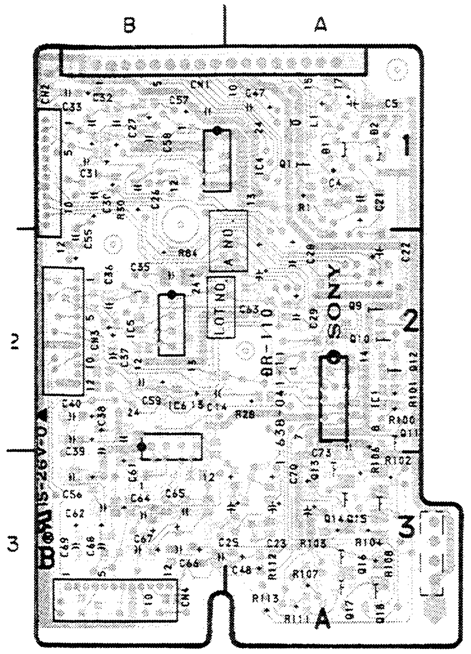


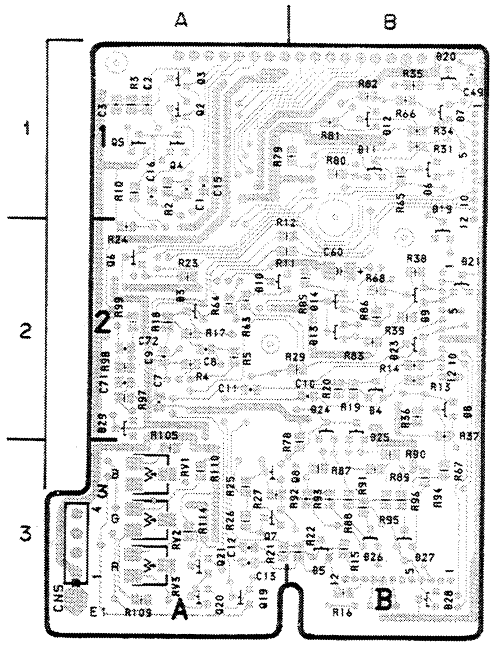
1-638-039-11 SOLDERING SIDE

DR-110 BOARD

DR-110(1-638-041-11)

CN1	B-1	L1	A-1
CN2	B-1		
CN3	B-2	Q1	A-1
CN4	B-3	Q2	A-1
CN5	A-3	Q3	A-1
		Q4	A-1
D1	A-1	Q5	A-1
D2	A-1	Q6	A-2
D3	A-2	Q7	A-3
D4	B-2	Q8	B-3
D5	B-3	Q9	A-2
D6	A-1	Q10	A-2
D7	B-1		
D8	B-2	Q11	A-2
D9	B-2	Q12	A-2
D10	A-2	Q13	A-3
D11	A-1	Q14	A-3
D12	A-1	Q15	A-3
D13	B-2	Q16	A-3
D14	B-2	Q17	A-3
D19	A-1	Q18	A-3
D20	B-1	Q19	A-3
D21	B-2	Q20	A-3
D23	B-2	Q21	A-3
D24	B-2		
D25	B-2	RV1	A-3
D26	B-3	RV2	A-3
D27	B-3	RV3	A-3
D28	B-3		
IC1	A-2		
IC4	A-2		
IC5	B-2		
IC6	B-2		



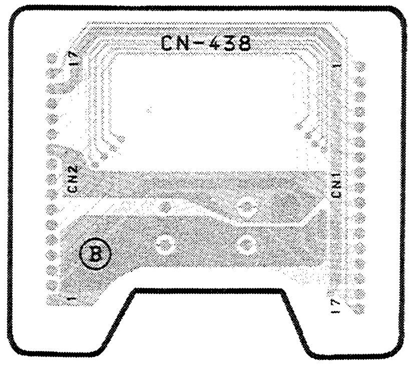


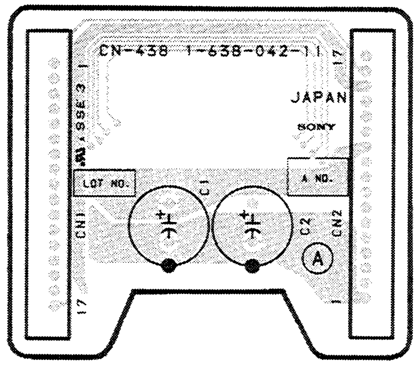
1-638-041-11 SOLDERING SIDE

DR-110(1-638-041-11)

CN1	B-1	L1	A-1
CN2	B-1		
CN3	B-2	Q1	A-1
CN4	B-3	Q2	A-1
CN5	A-3	Q3	A-1
		Q4	A-1
D1	A-1	Q5	A-1
D2	A-1	Q6	A-2
D3	A-2	Q7	A-3
D4	B-2	Q8	B-3
D5	B-3	Q9	A-2
D6	A-1	Q10	A-2
D7	B-1		
D8	B-2	Q11	A-2
D9	B-2	Q12	A-2
D10	A-2	Q13	A-3
D11	A-1	Q14	A-3
D12	A-1	Q15	A-3
D13	B-2	Q16	A-3
D14	B-2	Q17	A-3
D19	A-1	Q18	A-3
D20	B-1	Q19	A-3
D21	B-2	Q20	A-3
D23	B-2	Q21	A-3
D24	B-2		
D25	B-2	RV1	A-3
D26	B-3	RV2	A-3
D27	B-3	RV3	A-3
D28	B-3		
IC1	A-2		
IC4	A-2		
IC5	B-2		
IC6	B-2		

CN-438 BOARD

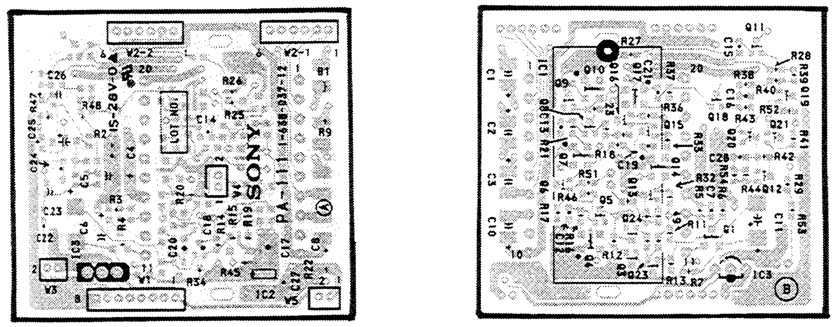




1-638-042-11 SOLDERING SIDE

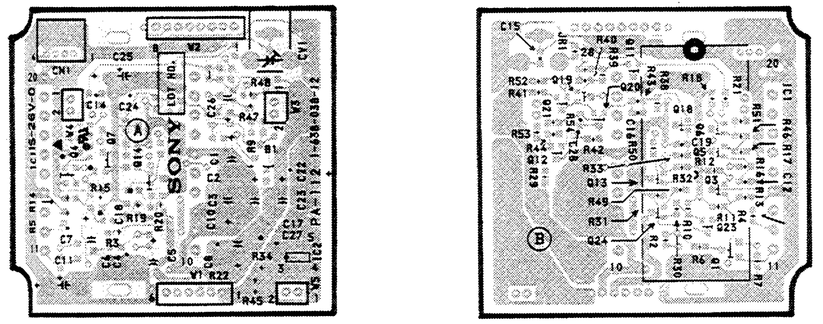
S/N J ; 30591 through 30880
UC; 10841 through 11540
EK; 40691 through 41370

PA-111 BOARD


SONY
IS-26V-0
PA-111 1-638-037-12
LOT NO.

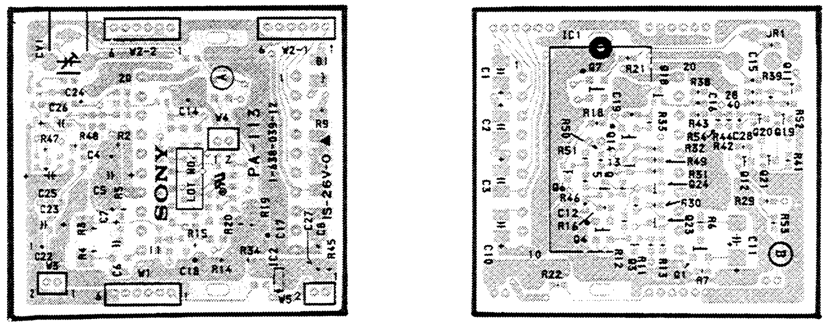
1-638-037-12 SOLDERING SIDE

PA-112 BOARD


SONY
IS-26V-0
PA-112 1-638-038-12
LOT NO.

1-638-038-12 SOLDERING SIDE

PA-113 BOARD

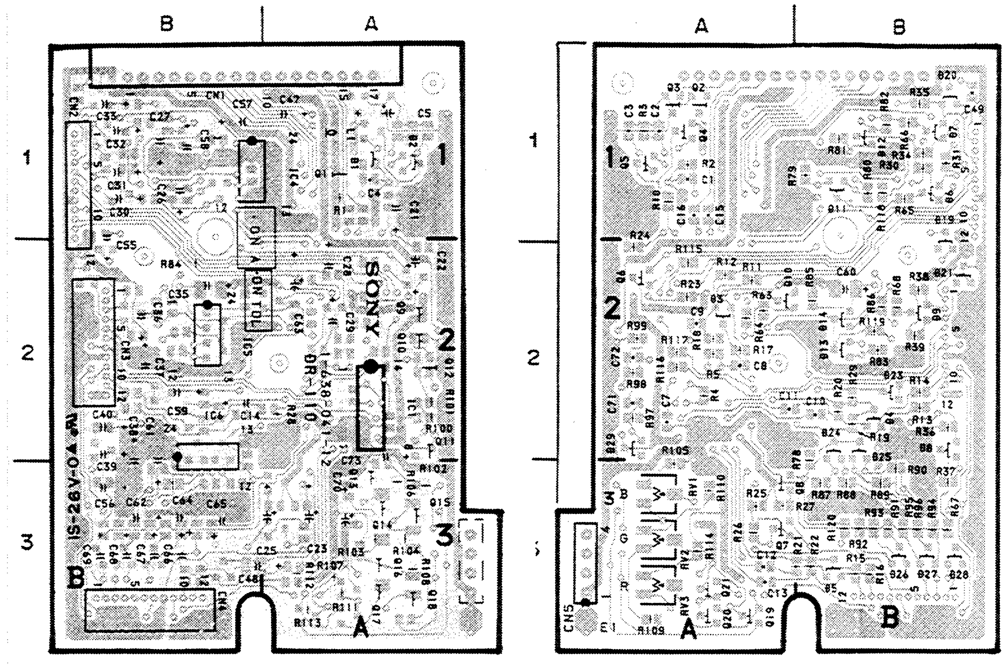

SONY
IS-26V-0
PA-113 1-638-039-12
LOT NO.

1-638-039-12 SOLDERING SIDE

DR-110 BOARD

DR-110(1-638-041-12)

CN1	B-1	L1	A-1
CN2	B-1		
CN3	B-2	Q1	A-1
CN4	B-3	Q2	A-1
CN5	A-3	Q3	A-1
		Q4	A-1
D1	A-1	Q5	A-1
D2	A-1	Q6	A-2
D3	A-2	Q7	A-3
D4	B-2	Q8	B-3
D5	B-3	Q9	A-2
D6	B-1	Q10	A-2
D7	B-1		
D8	B-2	Q11	A-2
D9	B-2	Q12	A-2
D10	A-2	Q13	A-3
D11	B-1	Q14	A-3
D12	B-1	Q15	A-3
D13	B-2	Q16	A-3
D14	B-2	Q17	A-3
D19	A-1	Q18	A-3
D20	B-1	Q19	A-3
D21	B-2	Q20	A-3
D23	B-2	Q21	A-3
D24	B-2		
D25	B-2	RV1	A-3
D26	B-3	RV2	A-3
D27	B-3	RV3	A-3
D28	B-3		
D29	A-2		
IC1	A-2		
IC4	A-1		
IC5	B-2		
IC6	B-2		

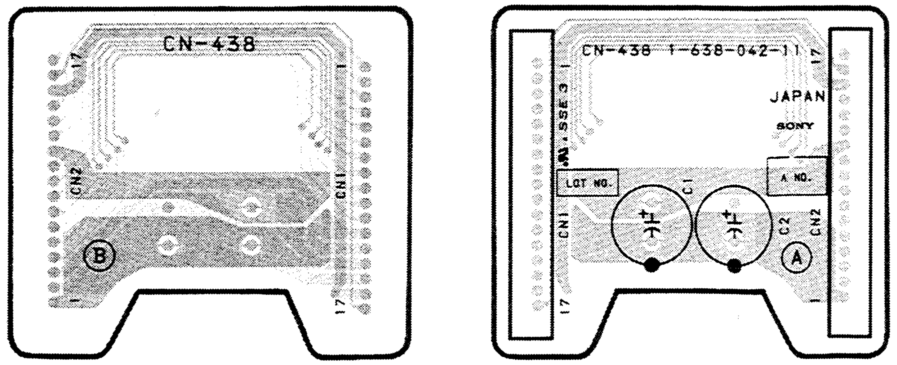

B
A
1
2
3
A
B
1
2
3
SONY
IS-26V-04
DR-110
A
B
A
B

1-638-041-12 SOLDERING SIDE

DR-110(1-638-041-12)

CN1	B-1	L1	A-1
CN2	B-1		
CN3	B-2	Q1	A-1
CN4	B-3	Q2	A-1
CN5	A-3	Q3	A-1
		Q4	A-1
D1	A-1	Q5	A-1
D2	A-1	Q6	A-2
D3	A-2	Q7	A-3
D4	B-2	Q8	B-3
D5	B-3	Q9	A-2
D6	B-1	Q10	A-2
D7	B-1		
D8	B-2	Q11	A-2
D9	B-2	Q12	A-2
D10	A-2	Q13	A-3
D11	B-1	Q14	A-3
D12	B-1	Q15	A-3
D13	B-2	Q16	A-3
D14	B-2	Q17	A-3
D19	B-1	Q18	A-3
D20	B-1	Q19	A-3
D21	B-2	Q20	A-3
D23	B-2	Q21	A-3
D24	B-2		
D25	B-2	RV1	A-3
D26	B-3	RV2	A-3
D27	B-3	RV3	A-3
D28	B-3		
D29	A-2		
IC1	A-2		
IC4	A-1		
IC5	B-2		
IC6	B-2		

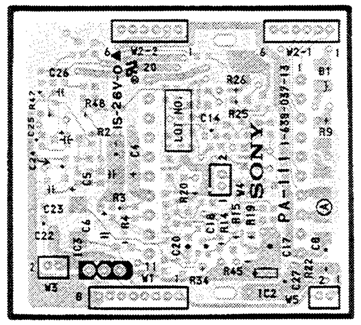
CN-438 BOARD

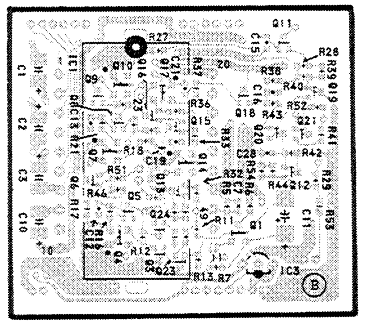

CN-438
CN2
CN1
CN-438 1-638-042-11
JAPAN
SONY
LOT NO.
C1
C2
CN1
CN2

1-638-042-11 SOLDERING SIDE

S/N J ; 30881 and higher
UC; 11541 and higher
EK; 41371 and higher

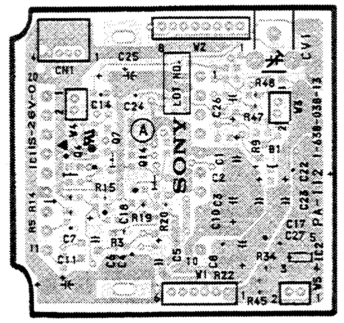
PA-111 BOARD

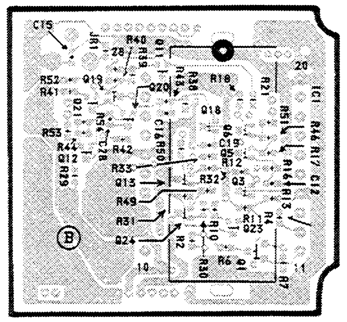




1-638-037-13 SOLDERING SIDE

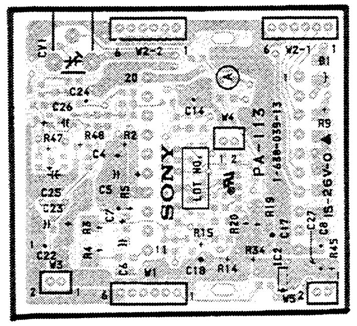
PA-112 BOARD

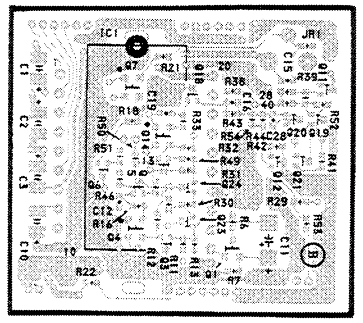




1-638-038-13 SOLDERING SIDE

PA-113 BOARD



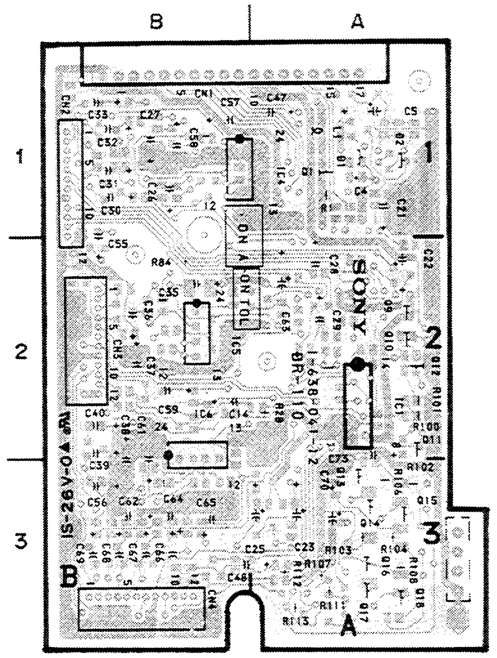


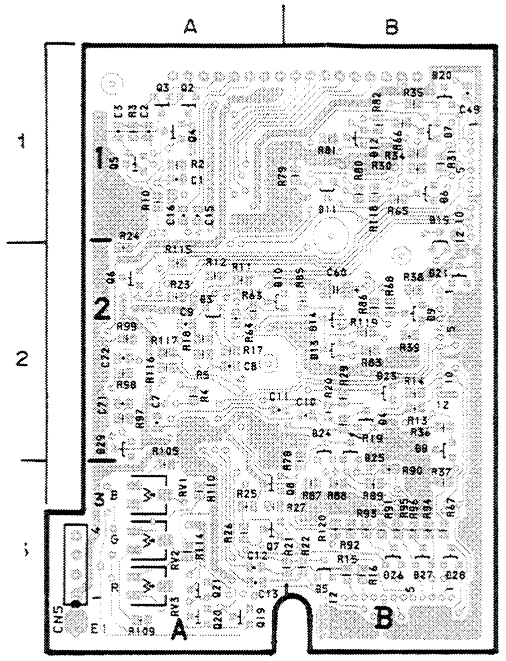
1-638-039-13 SOLDERING SIDE

DR-110 BOARD

DR-110(1-638-041-12)

CN1	B-1	L1	A-1
CN2	B-1		
CN3	B-2	Q1	A-1
CN4	B-3	Q2	A-1
CN5	A-3	Q3	A-1
		Q4	A-1
D1	A-1	Q5	A-1
D2	A-1	Q6	A-2
D3	A-2	Q7	A-3
D4	B-2	Q8	B-3
D5	B-3	Q9	A-2
D6	B-1	Q10	A-2
D7	B-1		
D8	B-2	Q11	A-2
D9	B-2	Q12	A-2
D10	A-2	Q13	A-3
D11	B-1	Q14	A-3
D12	B-1	Q15	A-3
D13	B-2	Q16	A-3
D14	B-2	Q17	A-3
D19	A-1	Q18	A-3
D20	B-1	Q19	A-3
D21	B-2	Q20	A-3
D23	B-2	Q21	A-3
D24	B-2		
D25	B-2	RV1	A-3
D26	B-3	RV2	A-3
D27	B-3	RV3	A-3
D28	B-3		
D29	A-2		
IC1	A-2		
IC4	A-1		
IC5	B-2		
IC6	B-2		



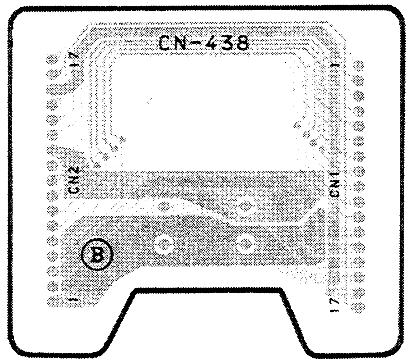


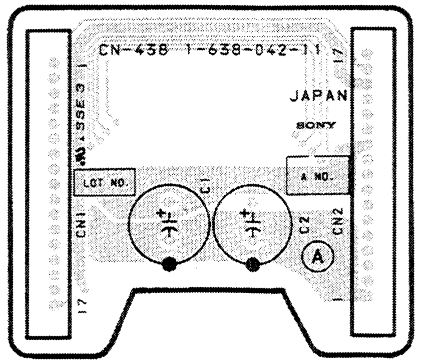
1-638-041-12 SOLDERING SIDE

DR-110(1-638-041-12)

CN1	B-1	L1	A-1
CN2	B-1		
CN3	B-2	Q1	A-1
CN4	B-3	Q2	A-1
CN5	A-3	Q3	A-1
		Q4	A-1
D1	A-1	Q5	A-1
D2	A-1	Q6	A-2
D3	A-2	Q7	A-3
D4	B-2	Q8	B-3
D5	B-3	Q9	A-2
D6	B-1	Q10	A-2
D7	B-1		
D8	B-2	Q11	A-2
D9	B-2	Q12	A-2
D10	A-2	Q13	A-3
D11	B-1	Q14	A-3
D12	B-1	Q15	A-3
D13	B-2	Q16	A-3
D14	B-2	Q17	A-3
D19	B-1	Q18	A-3
D20	B-1	Q19	A-3
D21	B-2	Q20	A-3
D23	B-2	Q21	A-3
D24	B-2		
D25	B-2	RV1	A-3
D26	B-3	RV2	A-3
D27	B-3	RV3	A-3
D28	B-3		
D29	A-2		
IC1	A-2		
IC4	A-1		
IC5	B-2		
IC6	B-2		

CN-438 BOARD

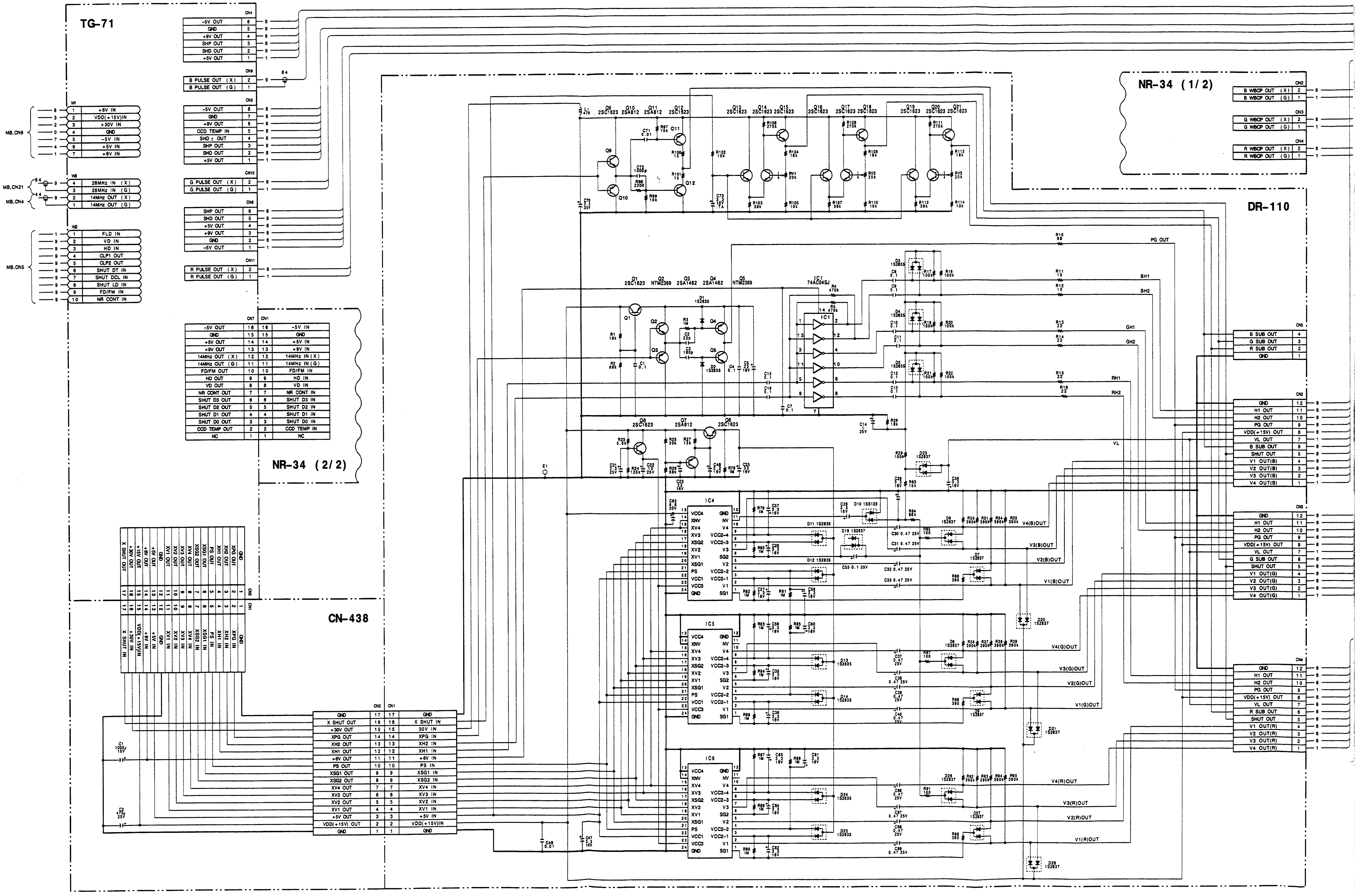




1-638-042-11 SOLDERING SIDE

CCD BLOCK

TG-71 BOARD
PA-111 BOARD
PA-112 BOARD
PA-113 BOARD
NR-34 BOARD
DR-110 BOARD
CN-438 BOARD

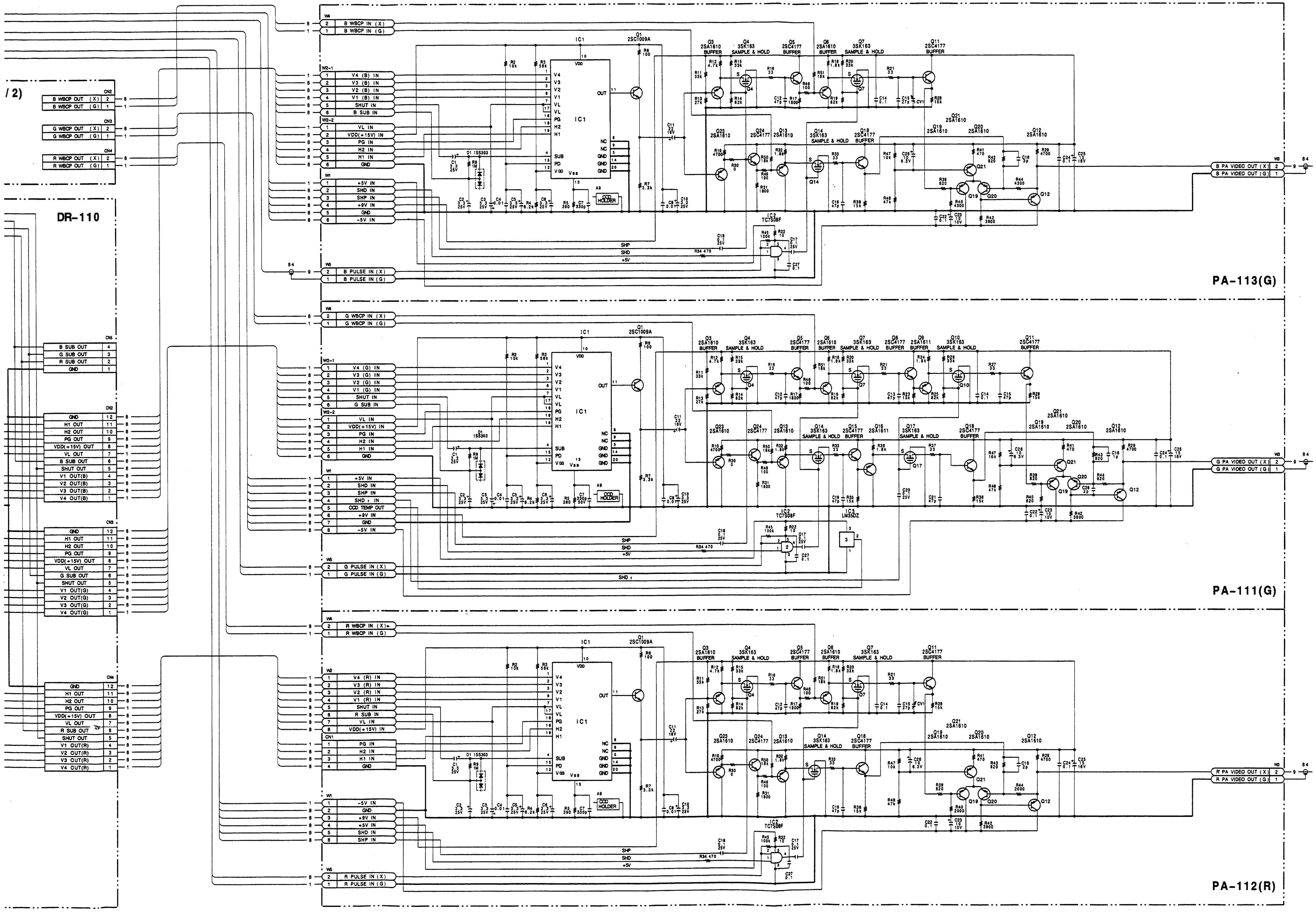

TG-71
NR-34 (1/2)
DR-110
NR-34 (2/2)
CN-438
MB,CN6
MB,CN21
MB,CN4
MB,CN5
+6V IN
VDD(+15V)IN
+30V IN
GND
-5V IN
+5V IN
+9V IN
28MHz IN (X)
28MHz IN (G)
14MHz OUT (X)
14MHz OUT (G)
FLD IN
VD IN
HD IN
CLP1 OUT
CLP2 OUT
SHUT DT IN
SHUT DCL IN
SHUT LD IN
FD/FM IN
NR CONT IN
-5V OUT
+9V OUT
SHP OUT
SHD OUT
+5V OUT
B PULSE OUT (X)
B PULSE OUT (G)
CCD TEMP IN
G PULSE OUT (X)
G PULSE OUT (G)
R PULSE OUT (X)
R PULSE OUT (G)
B WBCP OUT (X)
B WBCP OUT (G)
G WBCP OUT (X)
G WBCP OUT (G)
R WBCP OUT (X)
R WBCP OUT (G)
IC1 74AC04SJ
IC4
IC5
IC6
VCC4
XNV
XV4
XV3
XSG2
XV2
XV1
XSG1
PS
VCC1
VCC3
GND
NV
V4
VCC2-4
VCC2-3
V3
SG2
V2
VCC2-2
VCC2-1
V1
SG1
PG OUT
BH1
BH2
GH1
GH2
RH1
RH2
VL
V4(B)OUT
V3(B)OUT
V2(B)OUT
V1(B)OUT
V4(G)OUT
V3(G)OUT
V2(G)OUT
V1(G)OUT
V4(R)OUT
V3(R)OUT
V2(R)OUT
V1(R)OUT
B SUB OUT
G SUB OUT
R SUB OUT
H1 OUT
H2 OUT
VDD(+15V) OUT
VL OUT
SHUT OUT
V1 OUT(B)
V2 OUT(B)
V3 OUT(B)
V4 OUT(B)
V1 OUT(G)
V2 OUT(G)
V3 OUT(G)
V4 OUT(G)
V1 OUT(R)
V2 OUT(R)
V3 OUT(R)
V4 OUT(R)
X SHUT OUT
+30V OUT
XPG OUT
XH2 OUT
XH1 OUT
+6V OUT
PS OUT
XSG1 OUT
XSG2 OUT
XV4 OUT
XV3 OUT
XV2 OUT
XV1 OUT
VDD(+15V) OUT
X SHUT IN
30V IN
XPG IN
XH2 IN
XH1 IN
PS IN
XSG1 IN
XSG2 IN
XV4 IN
XV3 IN
XV2 IN
XV1 IN
VDD(+15V)IN
14MHz OUT (X)
14MHz OUT (G)
14MHz IN (X)
14MHz IN (G)
FD/FM OUT
HD OUT
VD OUT
NR CONT OUT
SHUT D3 OUT
SHUT D2 OUT
SHUT D1 OUT
SHUT D0 OUT
CCD TEMP OUT
SHUT D3 IN
SHUT D2 IN
SHUT D1 IN
SHUT D0 IN
NC
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
CN9
CN10
CN11
W1
W2
W8
E1
D10 1SS123
D11 1S2835
D12 1S2835
D13 1S2835
D14 1S2835
D20 1S2837
D21 1S2837
D24 1S2835
D25 1S2835
D26 1S2837
D23 1S2837

DXC-537 (J,UC)
DXC-537P(EK)

C-5

C-6

A B C D E F G H I


/ 2)
DR-110
B WBCP OUT (X)
B WBCP OUT (G)
G WBCP OUT (X)
G WBCP OUT (G)
R WBCP OUT (X)
R WBCP OUT (G)
B SUB OUT
G SUB OUT
R SUB OUT
GND
H1 OUT
H2 OUT
PG OUT
VDD(+15V) OUT
VL OUT
SHUT OUT
V1 OUT(B)
V2 OUT(B)
V3 OUT(B)
V4 OUT(B)
V1 OUT(G)
V2 OUT(G)
V3 OUT(G)
V4 OUT(G)
V1 OUT(R)
V2 OUT(R)
V3 OUT(R)
V4 OUT(R)
B WBCP IN (X)
B WBCP IN (G)
V4 (B) IN
V3 (B) IN
V2 (B) IN
V1 (B) IN
SHUT IN
B SUB IN
VL IN
VDD(+15V) IN
PG IN
H2 IN
H1 IN
+5V IN
SHD IN
SHP IN
+9V IN
-5V IN
B PULSE IN (X)
B PULSE IN (G)
IC1
Q1 2SC1009A
Q3 2SA1610 BUFFER
Q4 3SK163 SAMPLE & HOLD
Q5 2SC4177 BUFFER
Q6 2SA1610 BUFFER
Q7 3SK163 SAMPLE & HOLD
Q11 2SC4177 BUFFER
Q14 3SK163 SAMPLE & HOLD
Q18 2SC4177 BUFFER
Q21 2SA1610
IC2 TC7S08F
CCD HOLDER
SHP
SHD
+5V
B PA VIDEO OUT (X)
B PA VIDEO OUT (G)
MB,CN7
PA-113(G)
G WBCP IN (X)
G WBCP IN (G)
V4 (G) IN
V3 (G) IN
V2 (G) IN
V1 (G) IN
G SUB IN
SHD r IN
CCD TEMP OUT
G PULSE IN (X)
G PULSE IN (G)
Q8 2SC4177 BUFFER
Q9 2SA1611 BUFFER
Q10 3SK163 SAMPLE & HOLD
Q15 2SC4177 BUFFER
Q16 2SA1611
Q17 3SK163 SAMPLE & HOLD
IC3 LM35DZ
SHD r
G PA VIDEO OUT (X)
G PA VIDEO OUT (G)
MB,CN8
PA-111(G)
R WBCP IN (X)
R WBCP IN (G)
V4 (R) IN
V3 (R) IN
V2 (R) IN
V1 (R) IN
R SUB IN
R PULSE IN (X)
R PULSE IN (G)
R PA VIDEO OUT (X)
R PA VIDEO OUT (G)
MB,CN9
PA-112(R)
1
2
3
5

CCD BLOCK FRAME

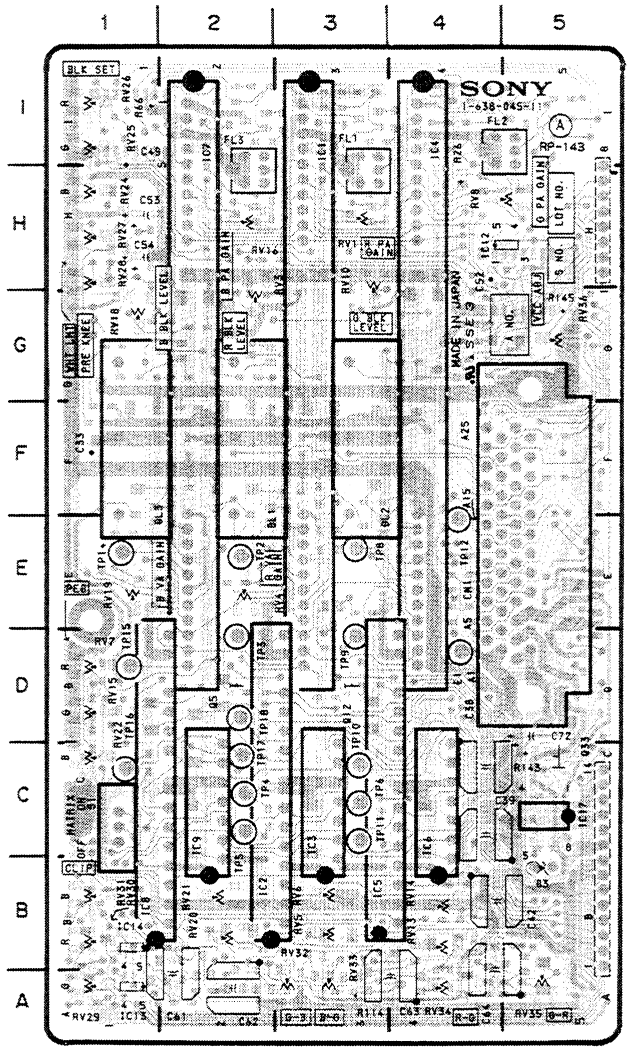
CN-438 BOARD
DR-110 BOARD
NR-34 BOARD
PA-111 BOARD
PA-112 BOARD
PA-113 BOARD
TG-71 BOARD
DXC-537(J,UC)
DXC-537P(EK)
DXC-537M(J)

PR-143 BOARD

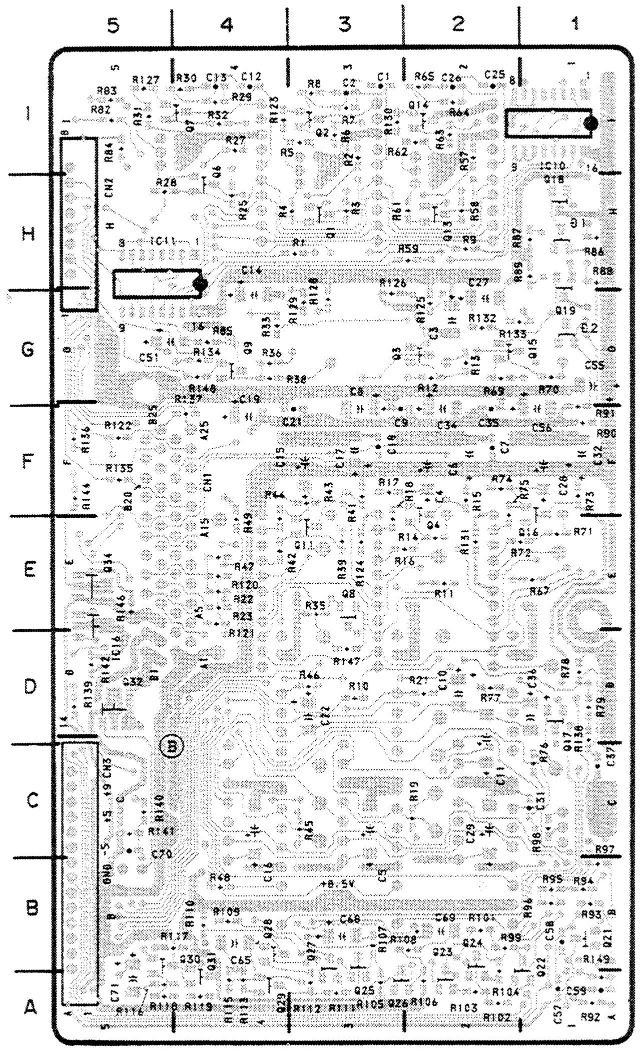
S/N J ; 30001 through 30040
UC; 10001 through 10060
EK; 40001 through 40050

PR-143(1-638-045-11)

CN1	E-4
CN2	H-5
CN3	C-5
D1	H-1
D2	G-1
D3	B-5
DL1	E-2
DL2	E-3
DL3	E-1
E1	D-4
FL1	I-3
FL2	I-4
FL3	I-2
IC1	I-3
IC2	B-2
IC3	C-3
IC4	I-4
IC5	B-3
IC6	C-4
IC7	I-2
IC8	B-1
IC9	C-2
IC10	I-1
IC11	H-5
IC12	H-4
IC13	A-1
IC14	B-1
IC16	D-5
IC17	C-5
Q1	H-3
Q2	I-3
Q3	G-3
Q4	E-2
Q5	D-2
Q6	H-4
Q7	I-4
Q8	E-3
Q9	G-4
Q11	E-3
Q12	D-3
Q13	H-2
Q14	I-2
Q15	G-1
Q16	E-1
Q17	D-1
Q18	H-1
Q19	G-1
Q21	B-1
Q22	B-1
Q23	B-2
Q24	B-2
Q25	A-3
Q26	A-3
Q27	B-3
Q28	B-4
Q29	A-4
Q30	B-4
Q31	B-4
Q32	D-5
Q33	C-5
Q34	E-5
RV1	H-3
RV3	G-2
RV4	E-2
RV5	B-3
RV6	B-3
RV7	D-1
RV8	H-4
RV10	H-3
RV13	B-4
RV14	B-4
RV15	D-1
RB16	H-2
RV18	G-1
RV19	E-1
RV20	B-2
RV21	B-2
RV22	D-1
RV24	H-1
RV25	I-1
RV26	I-1
RV27	H-1
RV28	H-1
RV29	A-1
RV30	B-1
RV31	B-1
RV32	B-3
RV33	A-3
RV34	A-4
RV35	A-5
RV36	G-5
S1	C-1
TP2	E-2
TP3	D-2
TP4	C-2
TP5	B-2
TP6	C-3
TP8	E-3
TP9	D-3
TP10	C-3
TP11	C-3
TP12	E-4
TP14	E-1
TP15	D-1
TP16	D-1
TP17	C-2
TP18	D-2


SONY
1-638-045-11
RP-143
MADE IN JAPAN
BLK SET
PRE KNEE
MATRIX
CLIP
R PA GAIN
B PA GAIN
G PA GAIN
R BLK LEVEL
B BLK LEVEL
G BLK LEVEL
VCC ADJ
LOT NO.
S NO.
1
2
3
4
5
I
H
G
F
E
D
C
B
A

1-638-045-11 COMPONENT SIDE


5
4
3
2
1
I
H
G
F
E
D
C
B
A
+8.5V

1-638-045-11 SOLDERING SIDE

PR-143(1-638-045-11)

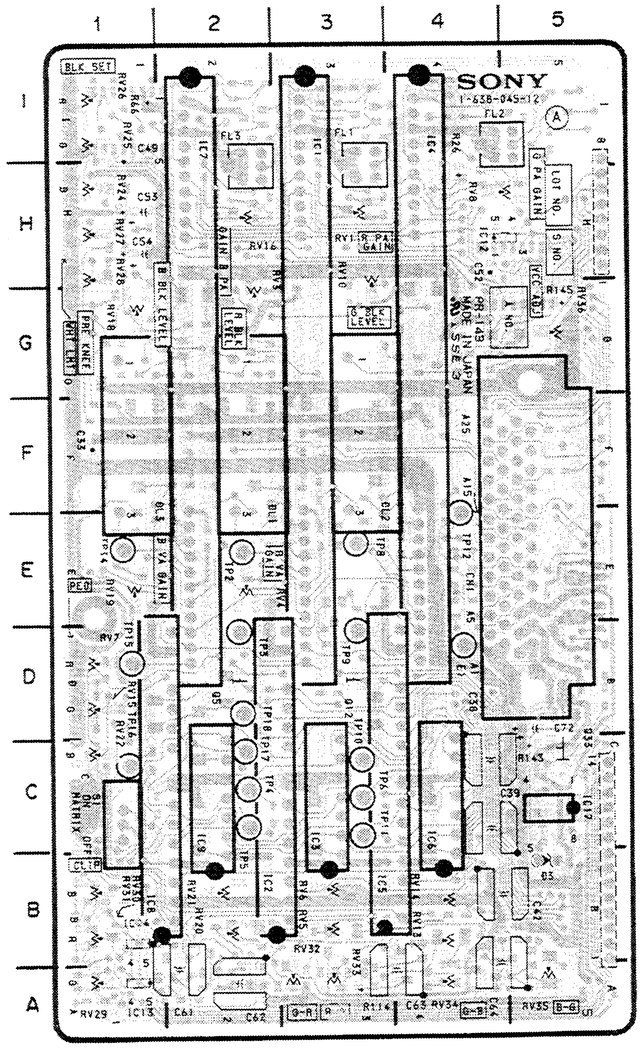
CN1	E-4
CN2	H-5
CN3	C-5
D1	H-1
D2	G-1
D3	B-5
DL1	E-2
DL2	E-3
DL3	E-1
E1	D-4
FL1	I-3
FL2	I-4
FL3	I-2
IC1	I-3
IC2	B-2
IC3	C-3
IC4	I-4
IC5	B-3
IC6	C-4
IC7	I-2
IC8	B-1
IC9	C-2
IC10	I-1
IC11	H-5
IC12	H-4
IC13	A-1
IC14	B-1
IC16	D-5
IC17	C-5
Q1	H-3
Q2	I-3
Q3	G-3
Q4	E-2
Q5	D-2
Q6	H-4
Q7	I-4
Q8	E-3
Q9	G-4
Q11	E-3
Q12	D-3
Q13	H-2
Q14	I-2
Q15	G-1
Q16	E-1
Q17	D-1
Q18	H-1
Q19	G-1
Q21	B-1
Q22	B-1
Q23	B-2
Q24	B-2
Q25	A-3
Q26	A-3
Q27	B-3
Q28	B-4
Q29	A-4
Q30	B-4
Q31	B-4
Q32	D-5
Q33	C-5
Q34	E-5
RV1	H-3
RV3	G-2
RV4	E-2
RV5	B-3
RV6	B-3
RV7	D-1
RV8	H-4
RV10	H-3
RV13	B-4
RV14	B-4
RV15	D-1
RB16	H-2
RV18	G-1
RV19	E-1
RV20	B-2
RV21	B-2
RV22	D-1
RV24	H-1
RV25	I-1
RV26	I-1
RV27	H-1
RV28	H-1
RV29	A-1
RV30	B-1
RV31	B-1
RV32	B-3
RV33	A-3
RV34	A-4
RV35	A-5
RV36	G-5
S1	C-1
TP2	E-2
TP3	D-2
TP4	C-2
TP5	B-2
TP6	C-3
TP8	E-3
TP9	D-3
TP10	C-3
TP11	C-3
TP12	E-4
TP14	E-1
TP15	D-1
TP16	D-1
TP17	C-2
TP18	D-2

PR-143 BOARD

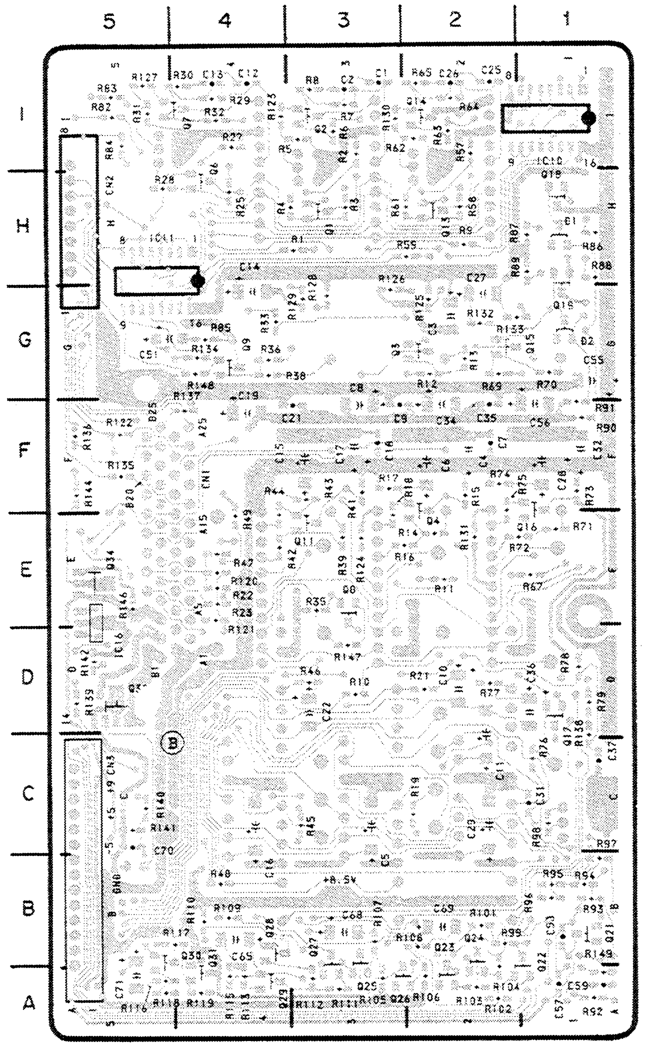
S/N J ; 30041 through 30590
UC; 10061 through 10840
EK; 40051 through 40690

PR-143(1-638-045-12)

CN1	E-4
CN2	H-5
CN3	C-5
D1	H-1
D2	G-1
D3	B-5
DL1	E-2
DL2	E-3
DL3	E-1
E1	D-4
FL1	I-3
FL2	I-4
FL3	I-2
IC1	I-3
IC2	B-2
IC3	C-3
IC4	I-4
IC5	B-3
IC6	C-4
IC7	I-2
IC8	B-1
IC9	C-2
IC10	I-1
IC11	H-5
IC12	H-4
IC13	A-1
IC14	B-1
IC16	D-5
IC17	C-5
Q1	H-3
Q2	I-3
Q3	G-3
Q4	E-2
Q5	D-2
Q6	H-4
Q7	I-4
Q8	E-3
Q9	G-4
Q11	E-3
Q12	D-3
Q13	H-2
Q14	I-2
Q15	G-1
Q16	E-1
Q17	D-1
Q18	H-1
Q19	G-1
Q21	B-1
Q22	B-1
Q23	B-2
Q24	B-2
Q25	A-3
Q26	A-3
Q27	B-3
Q28	B-4
Q29	A-4
Q30	B-4
Q31	B-4
Q32	D-5
Q33	C-5
Q34	E-5
RV1	H-3
RV3	G-2
RV4	E-2
RV5	B-3
RV6	B-3
RV7	D-1
RV8	H-4
RV10	H-3
RV13	B-4
RV14	B-4
RV15	D-1
RV16	H-2
RV18	G-1
RV19	E-1
RV20	B-2
RV21	B-2
RV22	D-1
RV24	H-1
RV25	I-1
RV26	I-1
RV27	H-1
RV28	H-1
RV29	A-1
RV30	B-1
RV31	B-1
RV32	B-3
RV33	A-3
RV34	A-4
RV35	A-5
RV36	G-5
S1	C-1
TP2	E-2
TP3	D-2
TP4	C-2
TP5	B-2
TP6	C-3
TP8	E-3
TP9	D-3
TP10	C-3
TP11	C-3
TP12	E-4
TP14	E-1
TP15	D-1
TP16	D-1
TP17	C-2
TP18	D-2


1
2
3
4
5
I
H
G
F
E
D
C
B
A
SONY
1-638-045-12
BLK SET
PRE KNEE
G PA GAIN
R PA GAIN
B BLK LEVEL
R BLK LEVEL
G BLK LEVEL
B VA GAIN
R VA GAIN
B PA GAIN
S1 ON OFF MATRIX
PED
IC1
IC2
IC4
IC5
IC6
IC7
IC8
IC9
IC13
IC17
FL1
FL2
FL3
DL1
DL2
DL3
RV32
RV33
RV34
RV35
C61
C62
C63
R114
G-R
B-G
B-R
A
MADE IN JAPAN

[illegible] COMPONENT SIDE


5
4
3
2
1
I
H
G
F
E
D
C
B
A
B
CN2
CN3
IC11
IC10
IC14
IC16
IC13
R149
R92
C59
C57
R102
R103
R104
R106
R105
R112
R111
R116
R118
R119
Q25
Q26
Q30
Q31
+8.5V

1-638-045-12 SOLDERING SIDE

PR-143(1-638-045-12)

CN1	E-4
CN2	H-5
CN3	C-5
D1	H-1
D2	G-1
D3	B-5
DL1	E-2
DL2	E-3
DL3	E-1
E1	D-4
FL1	I-3
FL2	I-4
FL3	I-2
IC1	I-3
IC2	B-2
IC3	C-3
IC4	I-4
IC5	B-3
IC6	C-4
IC7	I-2
IC8	B-1
IC9	C-2
IC10	I-1
IC11	H-5
IC12	H-4
IC13	A-1
IC14	B-1
IC16	D-5
IC17	C-5
Q1	H-3
Q2	I-3
Q3	G-3
Q4	E-2
Q5	D-2
Q6	H-4
Q7	I-4
Q8	E-3
Q9	G-4
Q11	E-3
Q12	D-3
Q13	H-2
Q14	I-2
Q15	G-1
Q16	E-1
Q17	D-1
Q18	H-1
Q19	G-1
Q21	B-1
Q22	B-1
Q23	B-2
Q24	B-2
Q25	A-3
Q26	A-3
Q27	B-3
Q28	B-4
Q29	A-4
Q30	B-4
Q31	B-4
Q32	D-5
Q33	C-5
Q34	E-5
RV1	H-3
RV3	G-2
RV4	E-2
RV5	B-3
RV6	B-3
RV7	D-1
RV8	H-4
RV10	H-3
RV13	B-4
RV14	B-4
RV15	D-1
RV16	H-2
RV18	G-1
RV19	E-1
RV20	B-2
RV21	B-2
RV22	D-1
RV24	H-1
RV25	I-1
RV26	I-1
RV27	H-1
RV28	H-1
RV29	A-1
RV30	B-1
RV31	B-1
RV32	B-3
RV33	A-3
RV34	A-4
RV35	A-5
RV36	G-5
S1	C-1
TP2	E-2
TP3	D-2
TP4	C-2
TP5	B-2
TP6	C-3
TP8	E-3
TP9	D-3
TP10	C-3
TP11	C-3
TP12	E-4
TP14	E-1
TP15	D-1
TP16	D-1
TP17	C-2
TP18	D-2

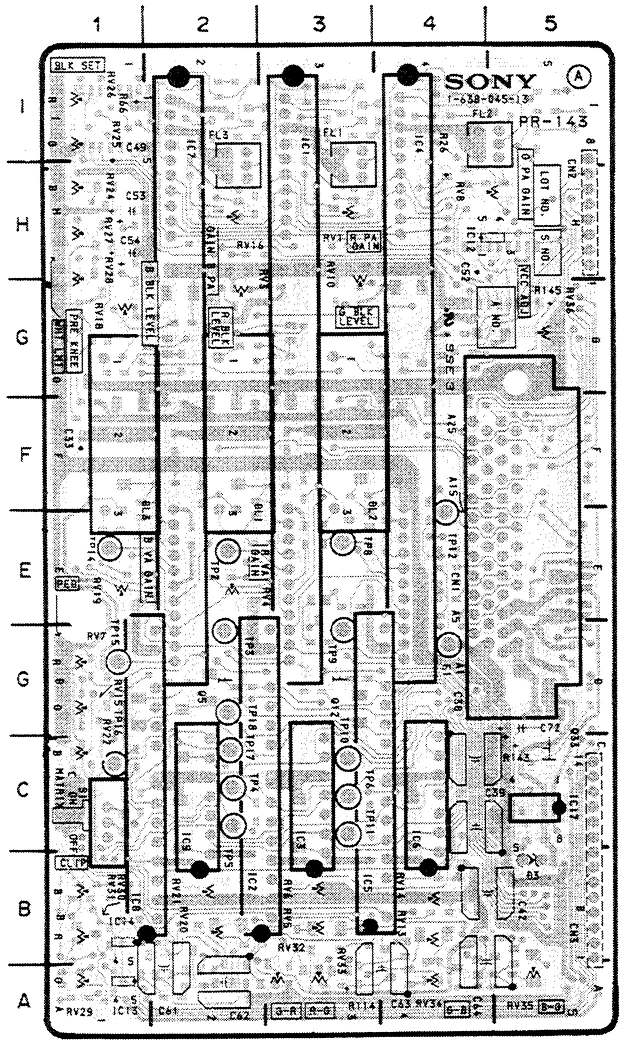
PR-143 ≡ PR-143

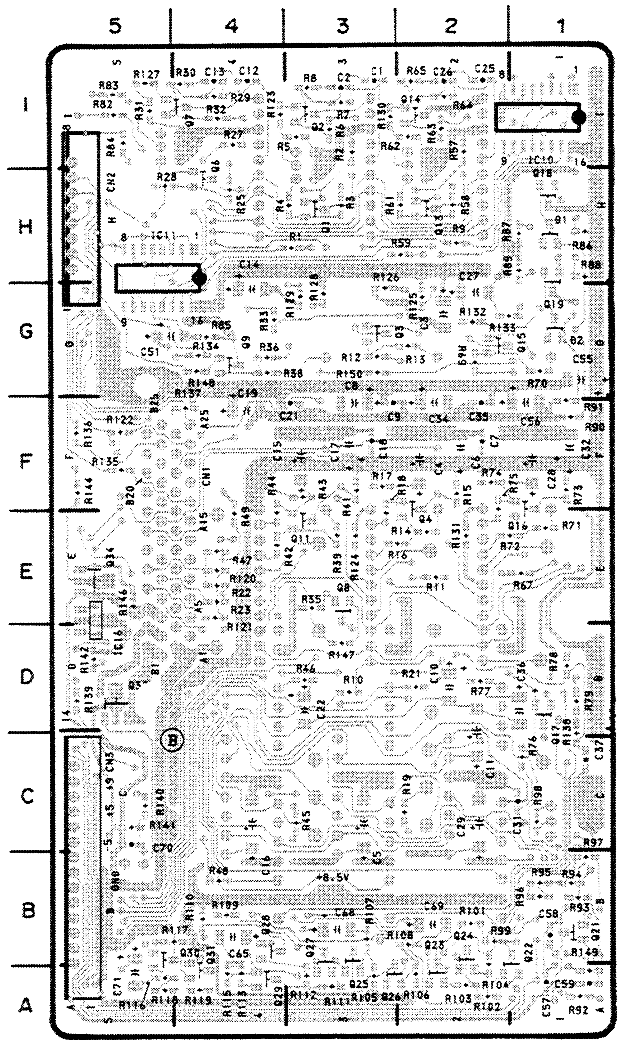
PR-143 BOARD

S/N J ; 30591 through 30880
UC; 10841 through 11540
EK; 40691 through 41370

PR-143(1-638-045-13)

CN1	E-4
CN2	H-5
CN3	C-5
D1	H-1
D2	G-1
D3	B-5
DL1	E-2
DL2	E-3
DL3	E-1
E1	D-4
FL1	I-3
FL2	I-4
FL3	I-2
IC1	I-3
IC2	B-2
IC3	C-3
IC4	I-4
IC5	B-3
IC6	C-4
IC7	I-2
IC8	B-1
IC9	C-2
IC10	I-1
IC11	H-5
IC12	H-4
IC13	A-1
IC14	B-1
IC16	D-5
IC17	C-5
Q1	H-3
Q2	I-3
Q3	G-3
Q4	E-2
Q5	D-2
Q6	H-4
Q7	I-4
Q8	E-3
Q9	G-4
Q11	E-3
Q12	D-3
Q13	H-2
Q14	I-2
Q15	G-1
Q16	E-1
Q17	D-1
Q18	H-1
Q19	G-1
Q21	B-1
Q22	B-1
Q23	B-2
Q24	B-2
Q25	A-3
Q26	A-3
Q27	B-3
Q28	B-4
Q29	A-4
Q30	B-4
Q31	B-4
Q32	D-5
Q33	C-5
Q34	E-5
RV1	H-3
RV3	H-3
RV4	E-3
RV5	B-3
RV6	B-3
RV7	D-1
RV8	H-4
RV10	H-3
RV13	B-4
RV14	B-4
RV15	D-1
RV16	H-2
RV18	G-1
RV19	E-1
RV20	B-2
RV21	B-2
RV22	D-1
RV24	H-1
RV25	I-1
RV26	I-1
RV27	H-1
RV28	H-1
RV29	A-1
RV30	B-1
RV31	B-1
RV32	B-3
RV33	A-3
RV34	A-4
RV35	A-5
RV36	G-5
S1	C-1
TP2	E-2
TP3	D-2
TP4	C-2
TP5	B-2
TP6	C-3
TP8	E-3
TP9	D-3
TP10	C-3
TP11	C-3
TP12	E-4
TP14	E-1
TP15	D-1
TP16	D-1
TP17	C-2
TP18	D-2


1
2
3
4
5
I
H
G
F
E
D
C
B
A
SONY
Ⓐ
1-638-045-13
PR-143
BLK SET
FL2
FL3
FL1
IC7
IC1
IC4
BLK LEVEL
R PA GAIN
B PA GAIN
LOT RO
S HO
R BLK LEVEL
B BLK LEVEL
CN2
CN1
CN3
IC9
IC8
IC5
IC6
IC17
IC2
TP2
TP5
TP9
TP15
TP16
TP17
TP18
TP12
CLIP
PED
PRE KNEE
RV7
RV14
RV32
RV34
RV35
R114
C61
C62
C63
C72


5
4
3
2
1
I
H
G
F
E
D
C
B
A
Ⓑ
IC10
IC11
+8.5V
R127
R83
R82
C14
C21
C51
C70
C65
C71
R116
R92

1-638-045-13 SOLDERING SIDE

PR-143(1-638-045-13)

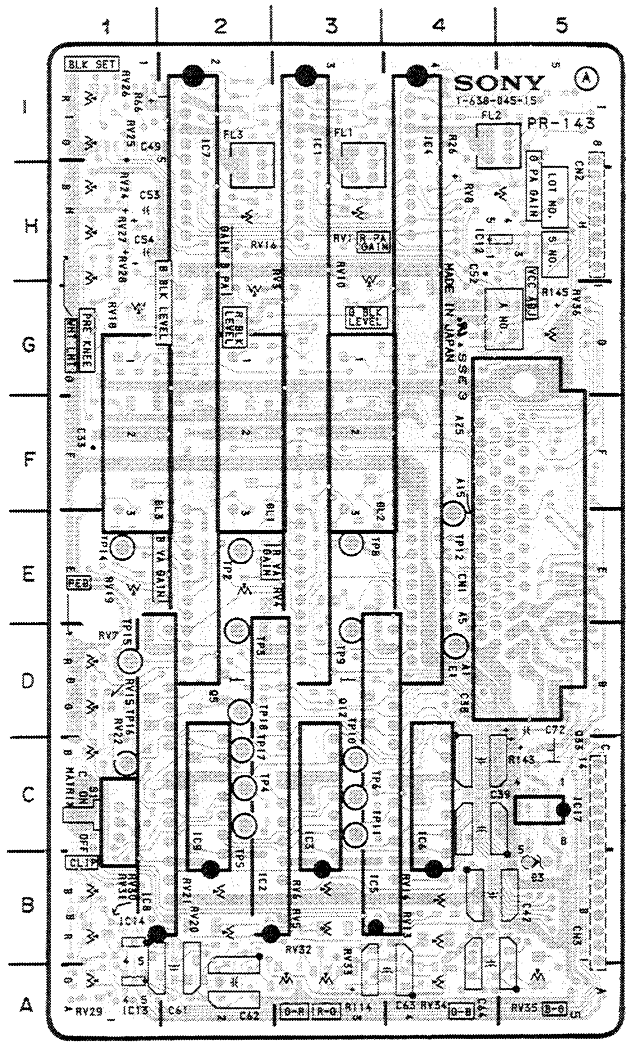
CN1	E-4
CN2	H-5
CN3	C-5
D1	H-1
D2	G-1
D3	B-5
DL1	E-2
DL2	E-3
DL3	E-1
E1	D-4
FL1	I-3
FL2	I-4
FL3	I-2
IC1	I-3
IC2	B-2
IC3	C-3
IC4	I-4
IC5	B-3
IC6	C-4
IC7	I-2
IC8	B-1
IC9	C-2
IC10	I-1
IC11	H-5
IC12	H-4
IC13	A-1
IC14	B-1
IC16	D-5
IC17	C-5
Q1	H-3
Q2	I-3
Q3	G-3
Q4	E-2
Q5	D-2
Q6	H-4
Q7	I-4
Q8	E-3
Q9	G-4
Q11	E-3
Q12	D-3
Q13	H-2
Q14	I-2
Q15	G-1
Q16	E-1
Q17	D-1
Q18	H-1
Q19	G-1
Q21	B-1
Q22	B-1
Q23	B-2
Q24	B-2
Q25	A-3
Q26	A-3
Q27	B-3
Q28	B-4
Q29	A-4
Q30	B-4
Q31	B-4
Q32	D-5
Q33	C-5
Q34	E-5
RV1	H-3
RV3	H-3
RV4	E-3
RV5	B-3
RV6	B-3
RV7	D-1
RV8	H-4
RV10	H-3
RV13	B-4
RV14	B-4
RV15	D-1
RV16	H-2
RV18	G-1
RV19	E-1
RV20	B-2
RV21	B-2
RV22	D-1
RV24	H-1
RV25	I-1
RV26	I-1
RV27	H-1
RV28	H-1
RV29	A-1
RV30	B-1
RV31	B-1
RV32	B-3
RV33	A-3
RV34	A-4
RV35	A-5
RV36	G-5
S1	C-1
TP2	E-2
TP3	D-2
TP4	C-2
TP5	B-2
TP6	C-3
TP8	E-3
TP9	D-3
TP10	C-3
TP11	C-3
TP12	E-4
TP14	E-1
TP15	D-1
TP16	D-1
TP17	C-2
TP18	D-2

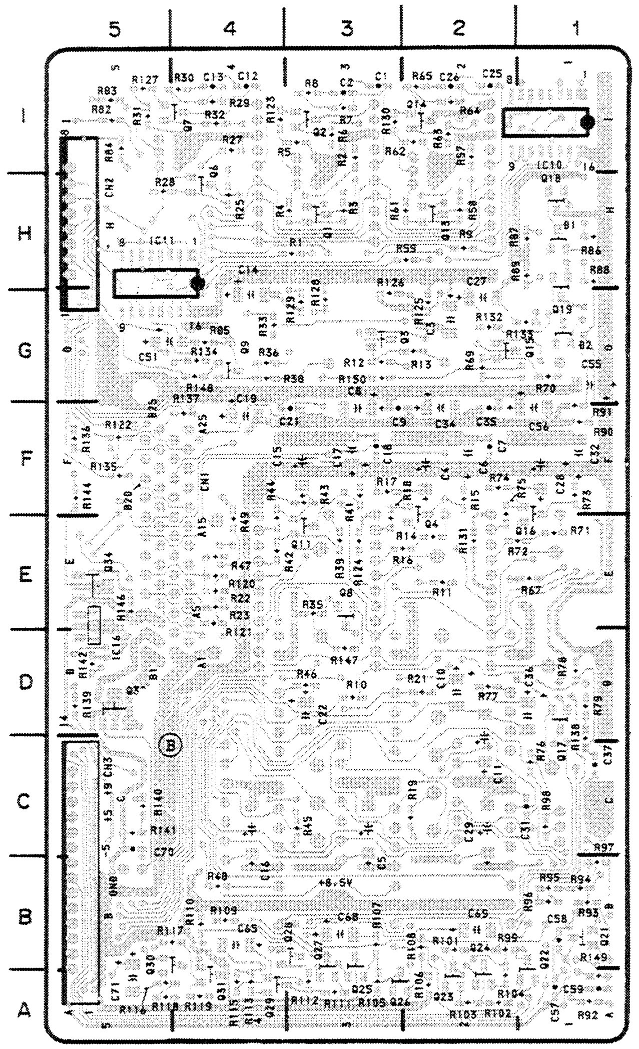
PR-143 BOARD

S/N J ; 30881 and higher
UC; 11541 and higher
EK; 41371 and higher

PR-143(1-638-045-14,15)

CN1	E-4
CN2	H-5
CN3	C-5
D1	H-1
D2	G-1
D3	B-5
DL1	E-2
DL2	E-3
DL3	E-1
E1	D-4
FL1	I-3
FL2	I-4
FL3	I-2
IC1	I-3
IC2	B-2
IC3	C-3
IC4	I-4
IC5	B-3
IC6	C-4
IC7	I-2
IC8	B-1
IC9	C-2
IC10	I-1
IC11	H-5
IC12	H-4
IC13	A-1
IC14	B-1
IC16	D-5
IC17	C-5
Q1	H-3
Q2	I-3
Q3	G-3
Q4	E-2
Q5	D-2
Q6	H-4
Q7	I-4
Q8	E-3
Q9	G-4
Q11	E-3
Q12	D-3
Q13	H-2
Q14	I-2
Q15	G-1
Q16	E-1
Q17	D-1
Q18	H-1
Q19	G-1
Q21	B-1
Q22	B-1
Q23	B-2
Q24	B-2
Q25	A-3
Q26	A-3
Q27	B-3
Q28	B-4
Q29	A-4
Q30	B-4
Q31	B-4
Q32	D-5
Q33	C-5
Q34	E-5
RV1	H-3
RV3	G-2
RV4	E-2
RV5	B-3
RV6	B-3
RV7	D-1
RV8	H-4
RV10	H-3
RV13	B-4
RV14	B-4
RV15	D-1
RV16	H-2
RV18	G-1
RV19	E-1
RV20	B-2
RV21	B-2
RV22	D-1
RV24	H-1
RV25	I-1
RV26	I-1
RV27	H-1
RV28	H-1
RV29	A-1
RV30	B-1
RV31	B-1
RV32	B-3
RV33	A-3
RV34	A-4
RV35	A-5
RV36	G-5
S1	C-1
TP2	E-2
TP3	D-2
TP4	C-2
TP5	B-2
TP6	C-3
TP8	E-3
TP9	D-3
TP10	C-3
TP11	C-3
TP12	E-4
TP14	E-1
TP15	D-1
TP16	D-1
TP17	C-2
TP18	D-2





1-638-045-14, 15 SOLDERING SIDE

PR-143(1-638-045-14,15)

CN1	E-4
CN2	H-5
CN3	C-5
D1	H-1
D2	G-1
D3	B-5
DL1	E-2
DL2	E-3
DL3	E-1
E1	D-4
FL1	I-3
FL2	I-4
FL3	I-2
IC1	I-3
IC2	B-2
IC3	C-3
IC4	I-4
IC5	B-3
IC6	C-4
IC7	I-2
IC8	B-1
IC9	C-2
IC10	I-1
IC11	H-5
IC12	H-4
IC13	A-1
IC14	B-1
IC16	D-5
IC17	C-5
Q1	H-3
Q2	I-3
Q3	G-3
Q4	E-2
Q5	D-2
Q6	H-4
Q7	I-4
Q8	E-3
Q9	G-4
Q11	E-3
Q12	D-3
Q13	H-2
Q14	I-2
Q15	G-1
Q16	E-1
Q17	D-1
Q18	H-1
Q19	G-1
Q21	B-1
Q22	B-1
Q23	B-2
Q24	B-2
Q25	A-3
Q26	A-3
Q27	B-3
Q28	B-4
Q29	A-4
Q30	B-4
Q31	B-4
Q32	D-5
Q33	C-5
Q34	E-5
RV1	H-3
RV3	G-2
RV4	E-2
RV5	B-3
RV6	B-3
RV7	D-1
RV8	H-4
RV10	H-3
RV13	B-4
RV14	B-4
RV15	D-1
RV16	H-2
RV18	G-1
RV19	E-1
RV20	B-2
RV21	B-2
RV22	D-1
RV24	H-1
RV25	I-1
RV26	I-1
RV27	H-1
RV28	H-1
RV29	A-1
RV30	B-1
RV31	B-1
RV32	B-3
RV33	A-3
RV34	A-4
RV35	A-5
RV36	G-5
S1	C-1
TP2	E-2
TP3	D-2
TP4	C-2
TP5	B-2
TP6	C-3
TP8	E-3
TP9	D-3
TP10	C-3
TP11	C-3
TP12	E-4
TP14	E-1
TP15	D-1
TP16	D-1
TP17	C-2
TP18	D-2

PR-143 BOARD

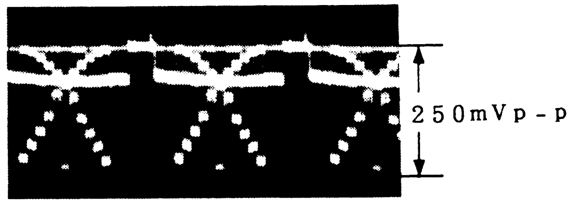
注意：

1. ＤＣ電圧はデジタル電圧計による値。
2. 波形写真、及びＤＣ電圧は下記条件での測定。
   - 本機にCA-537を接続する。
   - グレースケールチャートを撮像し、波形モニターにて、ビデオ出力の白レベルが 100 IREになる様にレンズ絞りをセットする。
   - OUTPUT : CAM
   - GAIN : 0dB
   - WHITE BAL : PRE
   - SHUTTER : OFF
   - ZEBRA MARKER : OFF OFF
   - PHASE : 0°

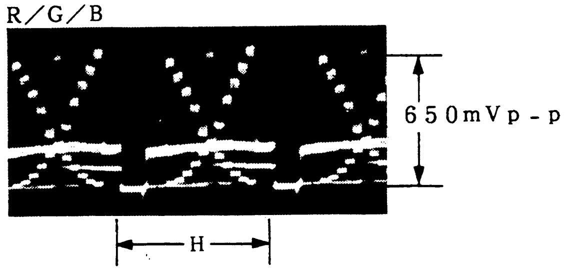
NOTE:

1. All voltage are DC.measured with a digital voltmeter.
2. All waveforms are taken and DC voltage is measured in condition below.
   - Connect the camera adapter CA-537 to the camera.
   - Shoot the grayscale chart. Ajust lens iris so that a white level is 100IRE on the waveform monitor.
   - OUTPUT : CAM
   - GAIN : 0dB
   - WHITE BAL : PRE
   - SHUTTER : OFF
   - ZEBRA MARKER : OFF OFF
   - PHASE : 0°

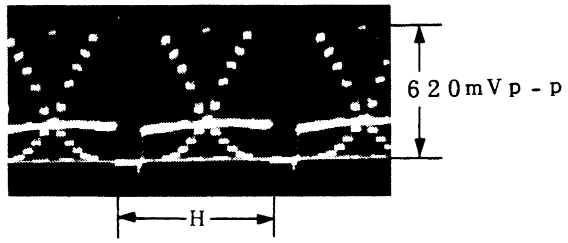
TP2/TP8/TP14
INPUT VIDEO
R/G/B



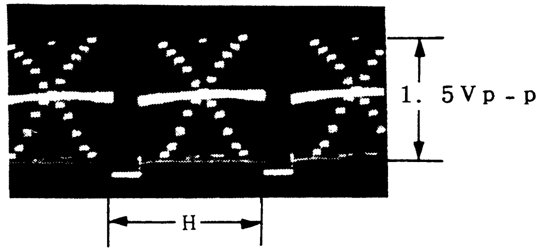
TP4/TP10/TP16
DELAYED
R/G/B



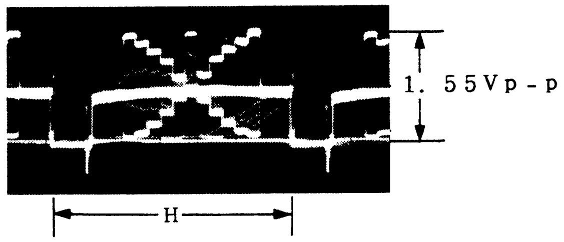
TP3/TP9/TP15
PRE KNEE
R/G/B



TP6/TP12/TP18
DETAIL MIX
R/G/B

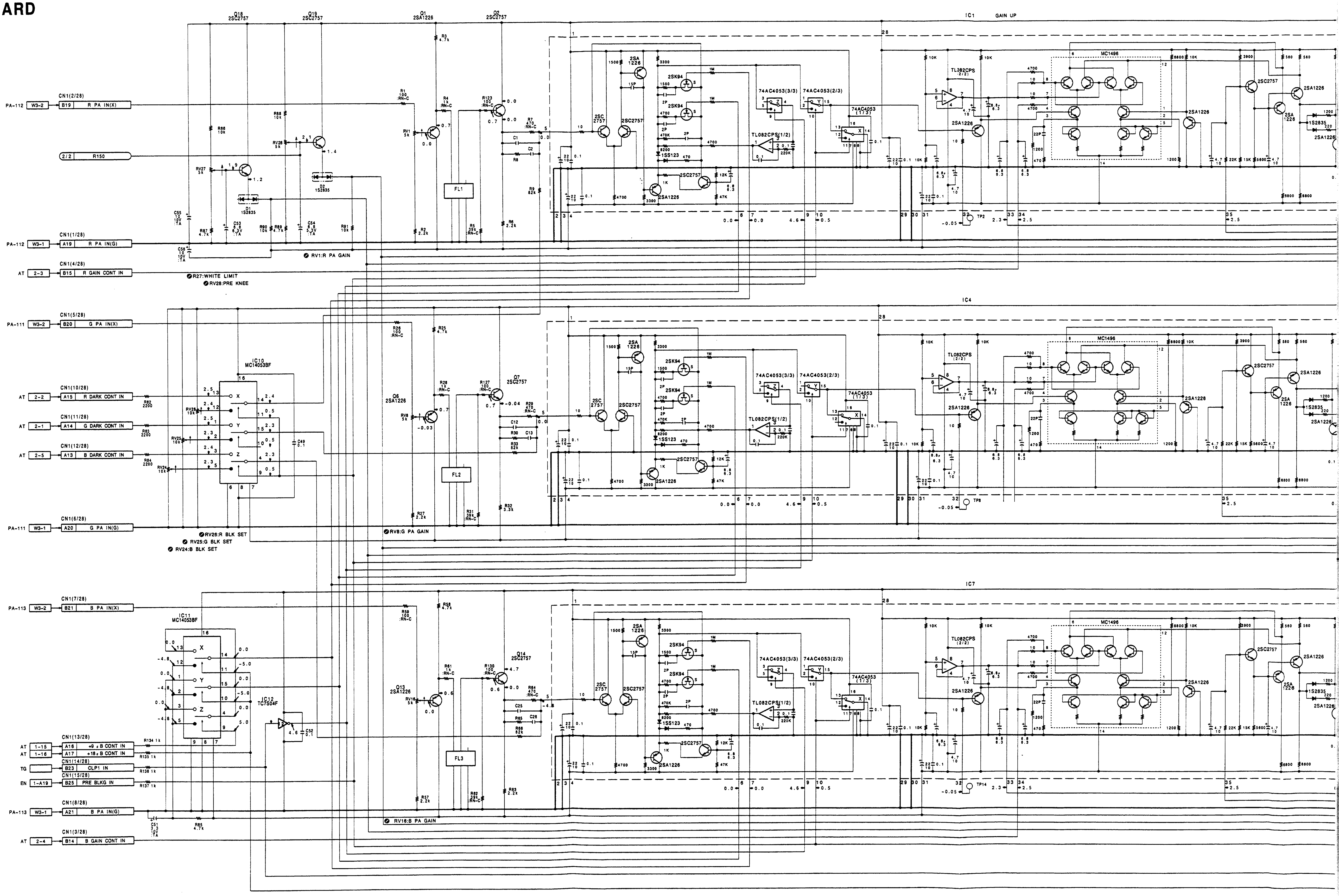


TP5/TP11/TP17
GUMMA COMP.
R/G/B



PR-143 (1/2) PR-143 (1/2)

PR-143(1/2)BOARD



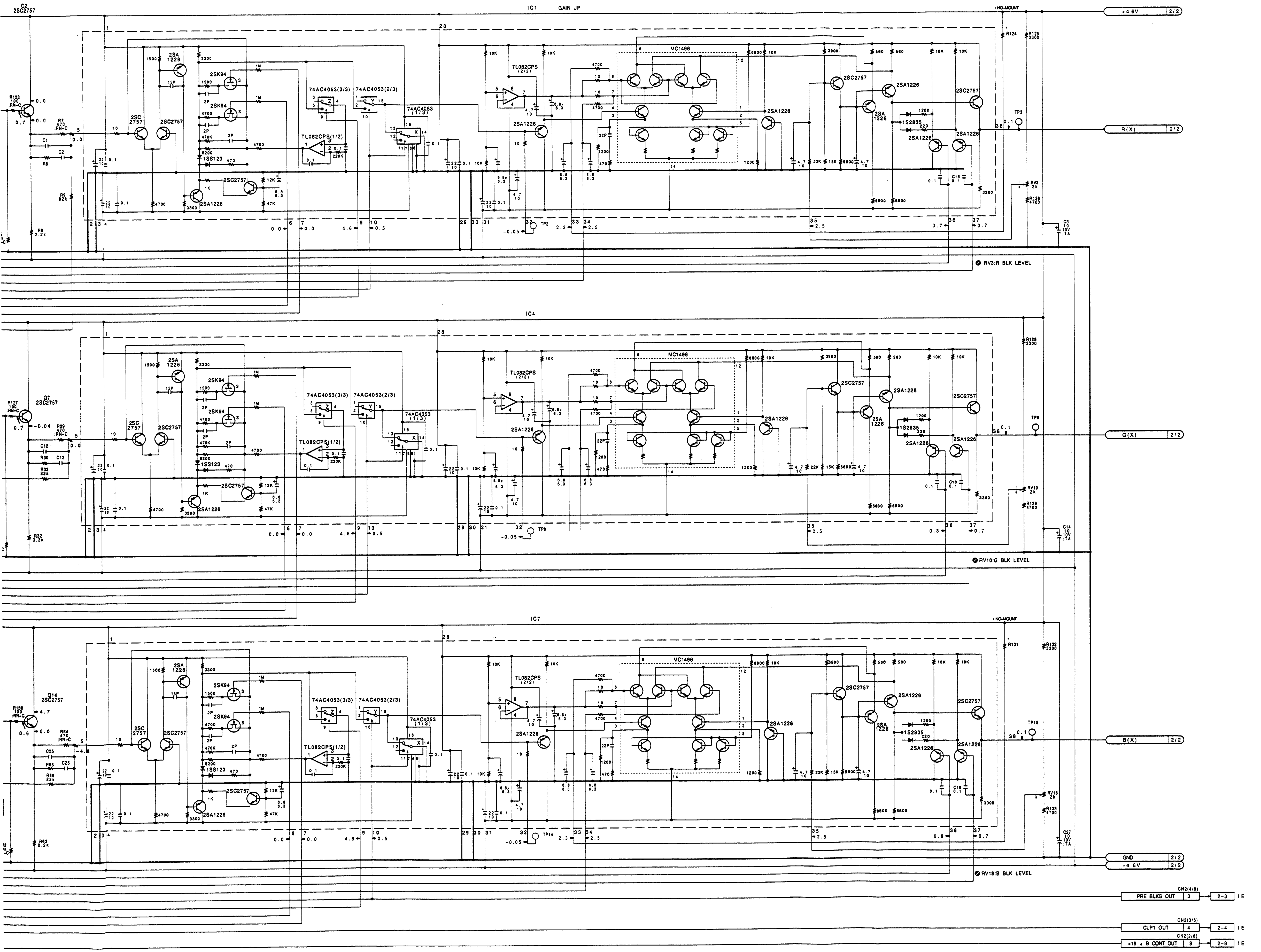
Q18 2SC2757
Q19 2SC2757
Q1 2SA1226
Q2 2SC2757
IC1 GAIN UP
IC4
IC7
IC10 MC14053BF
IC11 MC14053BF
IC12 TC7S04F
MC1496
TL082CPS (2/2)
TL082CPS(1/2)
74AC4053(3/3)
74AC4053(2/3)
74AC4053 (1/3)
2SK94
1SS123
1S2835
FL1
FL2
FL3
TP2
TP8
TP14
PA-112 W3-2 CN1(2/28) B19 R PA IN(X)
2/2 R150
PA-112 W3-1 CN1(1/28) A19 R PA IN(G)
AT 2-3 CN1(4/28) B15 R GAIN CONT IN
PA-111 W3-2 CN1(5/28) B20 G PA IN(X)
AT 2-2 CN1(10/28) A15 R DARK CONT IN
AT 2-1 CN1(11/28) A14 G DARK CONT IN
AT 2-5 CN1(12/28) A13 B DARK CONT IN
PA-111 W3-1 CN1(6/28) A20 G PA IN(G)
PA-113 W3-2 CN1(7/28) B21 B PA IN(X)
AT 1-15 CN1(13/28) A16 +9 B CONT IN
AT 1-16 A17 +18 B CONT IN
TG CN1(14/28) B23 CLP1 IN
EN 1-A19 CN1(15/28) B25 PRE BLKG IN
PA-113 W3-1 CN1(8/28) A21 B PA IN(G)
AT 2-4 CN1(3/28) B14 B GAIN CONT IN
RV1:R PA GAIN
R27:WHITE LIMIT
RV28:PRE KNEE
RV26:R BLK SET
RV25:G BLK SET
RV24:B BLK SET
RV8:G PA GAIN
RV16:B PA GAIN

DXC-537 (J,UC)
DXC-537P(EK)

C-17

C-18

A | B | C | D | E | F | G | H | I


Q2
2SC2757
IC1
GAIN UP
IC4
IC7
• NO-MOUNT
MC1496
TL082CPS (2/2)
TL082CPS(1/2)
74AC4053(3/3)
74AC4053(2/3)
74AC4053 (1/3)
2SA1226
2SC2757
2SK94
1SS123
1S2835
Q7
2SC2757
Q14
2SC2757
TP2
TP3
TP8
TP9
TP14
TP15
+4.6V
R(X)
G(X)
B(X)
GND
-4.6V
2/2
RV3:R BLK LEVEL
RV10:G BLK LEVEL
RV18:B BLK LEVEL
CN2(4/8)
PRE BLKG OUT
3
2-3
CN2(3/8)
CLP1 OUT
4
2-4
CN2(2/8)
+18 V B CONT OUT
8
2-8

1

2

3

4

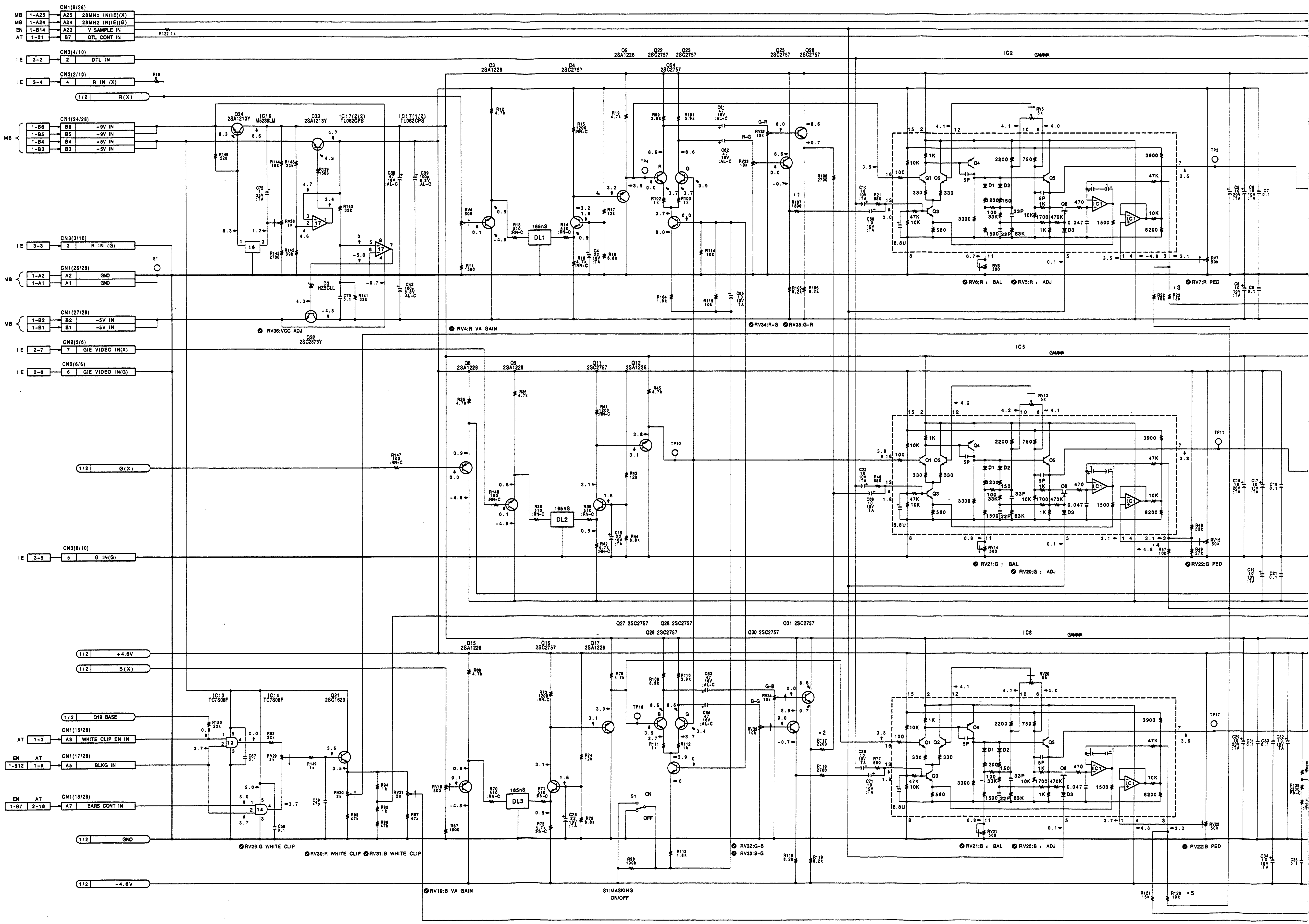
5

PR-143 BOARD(1/2)

DXC-537(J,UC)
DXC-537P(EK)
DXC-537M(J)

B-¥ DXC537-PR143/M#1

PR-143(2/2)BOARD

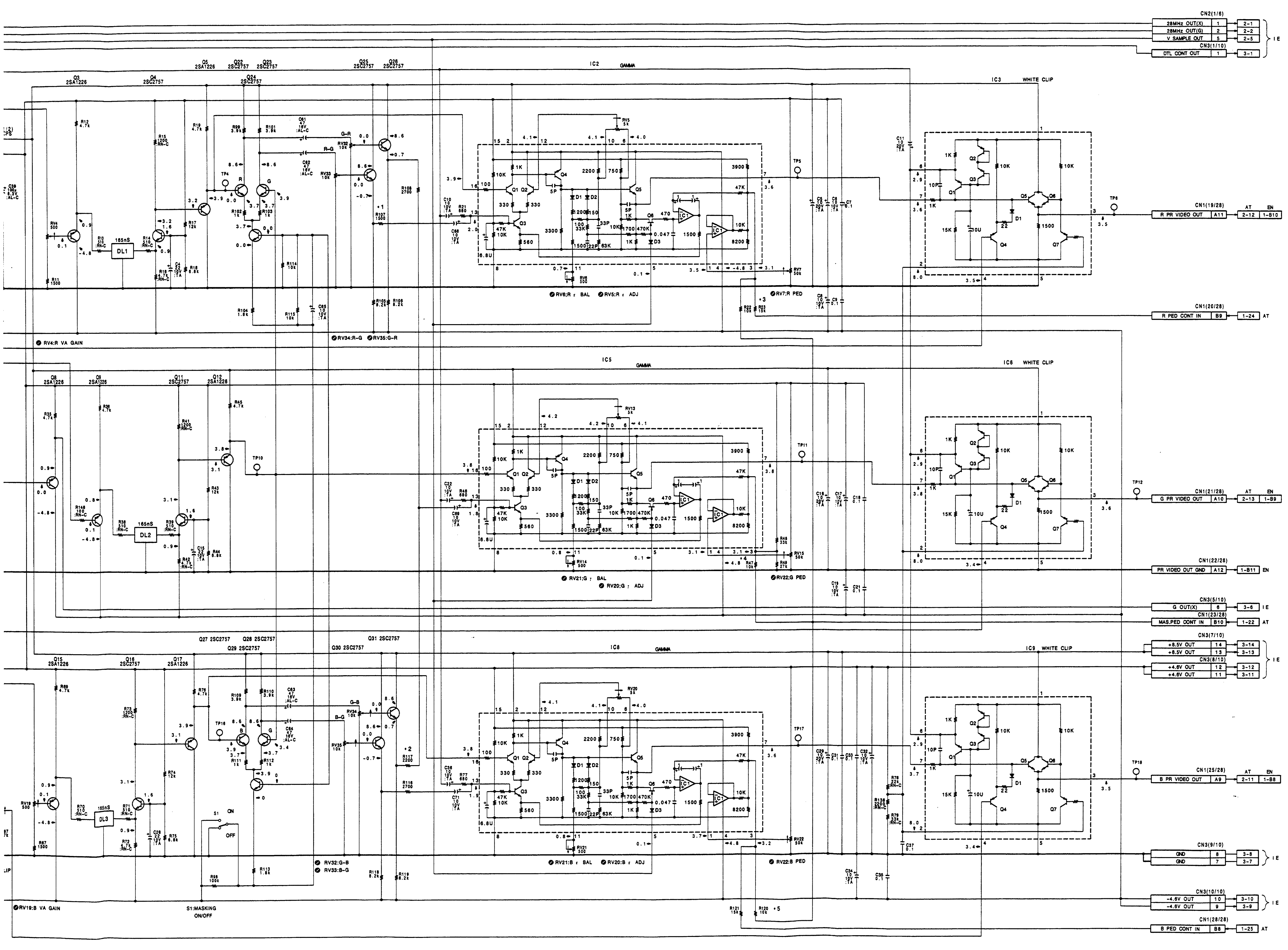

CN1(9/28)
MB 1-A25 A25 28MHz IN(1E)(X)
MB 1-A24 A24 28MHz IN(1E)(G)
EN 1-B14 A23 V SAMPLE IN
AT 1-21 B7 DTL CONT IN
R122 1k
CN3(4/10)
IE 3-2 2 DTL IN
CN3(2/10)
IE 3-4 4 R IN (X)
R10 0
1/2 R(X)
CN1(24/28)
MB 1-B6 B6 +9V IN
1-B5 B5 +9V IN
1-B4 B4 +5V IN
1-B3 B3 +5V IN
CN3(3/10)
IE 3-3 3 R IN (G)
E1
CN1(26/28)
MB 1-A2 A2 GND
1-A1 A1 GND
CN1(27/28)
MB 1-B2 B2 -5V IN
1-B1 B1 -5V IN
CN2(5/6)
IE 2-7 7 GIE VIDEO IN(X)
CN2(6/6)
IE 2-6 6 GIE VIDEO IN(G)
1/2 G(X)
CN3(6/10)
IE 3-5 5 G IN(G)
1/2 +4.6V
1/2 B(X)
1/2 Q19 BASE
CN1(16/28)
AT 1-3 A6 WHITE CLIP EN IN
CN1(17/28)
EN AT 1-B12 1-9 A5 BLKG IN
CN1(18/28)
EN AT 1-B7 2-16 A7 BARS CONT IN
1/2 GND
1/2 -4.6V
Q34 2SA1213Y
IC16 M5236LM
Q33 2SA1213Y
IC17(2/2) TL062CPS
IC17(1/2) TL062CPS
D3 HZ5CLL
Q32 2SC2873Y
RV36:VCC ADJ
Q3 2SA1226
Q4 2SC2757
Q5 2SA1226
Q22 2SC2757
Q23 2SC2757
Q24 2SC2757
Q25 2SC2757
Q26 2SC2757
165nS DL1
TP4
RV4:R VA GAIN
RV34:R-G RV35:G-R
IC2 GAMMA
TP5
RV6:R BAL RV5:R ADJ
RV7:R PED
Q8 2SA1226
Q9 2SA1226
Q11 2SC2757
Q12 2SA1226
R147 100 :RN-C
165nS DL2
TP10
IC5 GAMMA
TP11
RV21:G BAL RV20:G ADJ
RV22:G PED
IC13 TC7S08F
IC14 TC7S08F
Q21 2SC1623
RV29:G WHITE CLIP
RV30:R WHITE CLIP RV31:B WHITE CLIP
Q15 2SA1226
Q16 2SC2757
Q17 2SA1226
Q27 2SC2757 Q28 2SC2757
Q29 2SC2757
Q30 2SC2757
Q31 2SC2757
165nS DL3
TP16
S1 ON OFF
S1:MASKING ON/OFF
RV19:B VA GAIN
RV32:G-B
RV33:B-G
IC8 GAMMA
TP17
RV21:B BAL RV20:B ADJ
RV22:B PED

DXC-537 (J,UC)
DXC-537P(EK)

C-23

C-24

A	B	C	D	E	F	G	H


CN2(1/6)
28MHz OUT(X) 1 2-1
28MHz OUT(G) 2 2-2
V SAMPLE OUT 5 2-5
CN3(1/10)
DTL CONT OUT 1 3-1
I E
IC2 GAMMA
IC3 WHITE CLIP
IC5 GAMMA
IC6 WHITE CLIP
IC8 GAMMA
IC9 WHITE CLIP
Q3 2SA1226
Q4 2SC2757
Q5 2SA1226
Q22 2SC2757
Q23 2SC2757
Q24 2SC2757
Q25 2SC2757
Q26 2SC2757
Q8 2SA1226
Q9 2SA1226
Q11 2SC2757
Q12 2SA1226
Q15 2SA1226
Q16 2SC2757
Q17 2SA1226
Q27 2SC2757
Q28 2SC2757
Q29 2SC2757
Q30 2SC2757
Q31 2SC2757
DL1 165nS
DL2 165nS
DL3 165nS
TP4
TP5
TP8
TP10
TP11
TP12
TP16
TP17
TP18
CN1(19/28)
R PR VIDEO OUT A11 2-12 1-B10
AT EN
CN1(20/28)
R PED CONT IN B9 1-24 AT
CN1(21/28)
G PR VIDEO OUT A10 2-13 1-B9
CN1(22/28)
PR VIDEO OUT GND A12 1-B11 EN
CN3(5/10)
G OUT(X) 6 3-6 I E
CN1(23/28)
MAS.PED CONT IN B10 1-22 AT
CN3(7/10)
+8.5V OUT 14 3-14
+8.5V OUT 13 3-13
CN3(8/10)
+4.6V OUT 12 3-12
+4.6V OUT 11 3-11
I E
CN1(25/28)
B PR VIDEO OUT A9 2-11 1-B8
CN3(9/10)
GND 8 3-8
GND 7 3-7
I E
CN3(10/10)
-4.6V OUT 10 3-10
-4.6V OUT 9 3-9
I E
CN1(28/28)
B PED CONT IN B8 1-25 AT
RV4:R VA GAIN
RV34:R-G RV35:G-R
RV6:R γ BAL RV5:R γ ADJ
RV7:R PED
RV21:G γ BAL
RV20:G γ ADJ
RV22:G PED
RV32:G-B
RV33:B-G
RV21:B γ BAL RV20:B γ ADJ
RV22:B PED
RV19:B VA GAIN
S1:MASKING ON/OFF
S1 ON OFF
C-24
C-25
E
F
G
H
I
J
K
L
1
2
3
5

NOTE

MARK	ADDRESS	REF.	VALUE	MOUNTED BOARD	MODEL	SERIAL NUMBER
•1	F-2	R107	2700	A-7515-291-A	DXC-537 (J) DXC-537P(EK)	30001-30880 40001 and higher
•2	F-5	R117	2700			
•1	F-2	R107	2200	A-7515-290-A	DXC-537 (UC)	10001 and higher
•2	F-5	R117	2200			
•1	F-2	R107	1500	A-8271-115-A	DXC-537 (J) DXC-537M(J)	30881 and higher 30001 and higher
•2	F-5	R117	2700			
•3	H-2	R22	15K			
•4	H-3	R47	15K			
•5	H-5	R120	15K			

PR-143 BOARD (2/ 2)
DXC-537 (J,UC)
DXC-537P(EK)
DXC-537M(J)

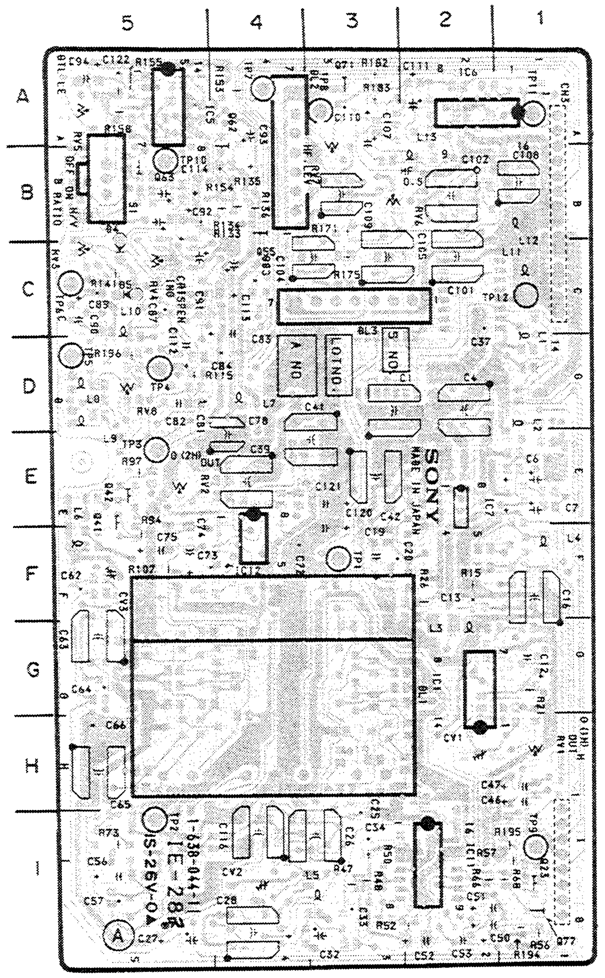
B-¥ DXC537-PR143/M#2

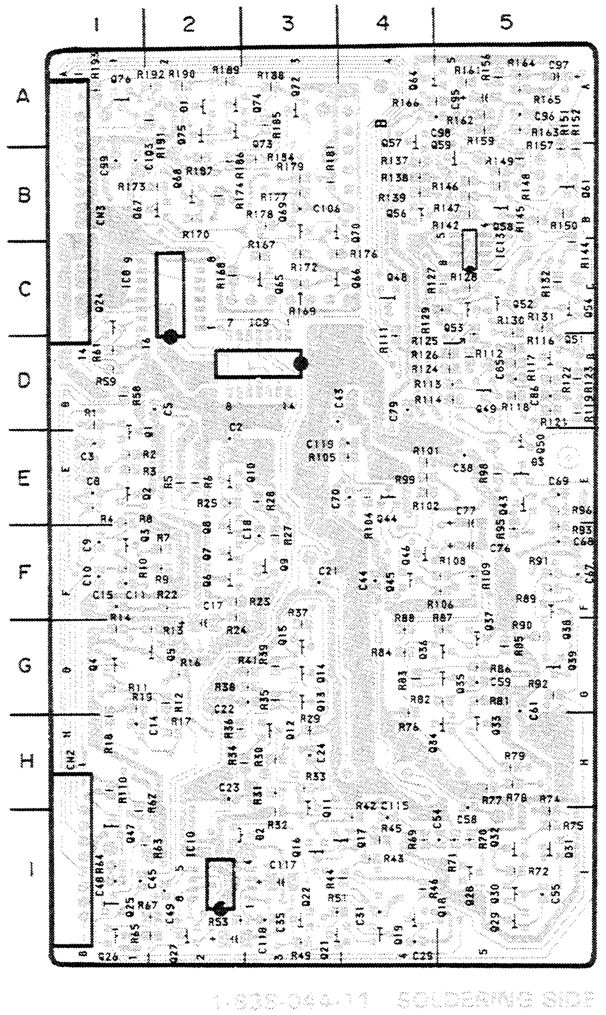
IE-28 BOARD

S/N J ; 30001 through 30040
UC; 10001 through 10060
EK; 40001 through 40050

IE-28(1-638-044-11)

CN2	H-1
CN3	B-1
CV1	H-2
CV2	I-4
CV3	F-5
D1	A-2
D2	I-3
D3	E-5
D4	B-5
D5	C-5
DL1	G-2
DL2	A-3
DL3	C-3
IC1	G-2
IC5	A-5
IC6	A-2
IC7	E-2
IC8	C-1
IC9	C-3
IC10	I-2
IC11	I-2
IC12	F-4
IC13	C-5
L1	D-1
L2	D-1
L3	G-2
L4	F-1
L5	I-3
L6	E-5
L7	D-4
L8	D-5
L9	E-5
L10	C-5
L11	C-1
L12	B-1
L13	A-2
Q1	E-2
Q2	E-2
Q3	F-1
Q4	G-1
Q5	G-2
Q6	F-2
Q7	F-2
Q8	F-2
Q9	F-3
Q10	E-3
Q11	I-3
Q12	H-3
Q13	G-3
Q14	G-3
Q15	G-3
Q16	I-3
Q17	I-4
Q18	I-5
Q19	I-4
Q21	I-3
Q22	I-3
Q23	I-1
Q24	C-1
Q25	I-1
Q26	I-1
Q27	I-2
Q28	I-5
Q29	I-5
Q30	I-5
Q31	I-5
Q32	I-5
Q33	H-5
Q34	H-5
Q35	G-5
Q36	G-4
Q37	G-5
Q38	G-5
Q39	G-5
Q41	E-5
Q42	E-5
Q43	E-5
Q44	E-4
Q45	F-4
Q46	F-4
Q47	I-1
Q48	C-4
Q49	D-5
Q50	E-5
Q51	D-5
Q52	C-5
Q53	C-5
Q54	C-5
Q55	C-4
Q56	B-4
Q57	B-4
Q58	B-5
Q59	B-5
Q61	B-5
Q62	A-4
Q63	B-5
Q64	A-4
Q65	C-3
Q66	C-4
Q67	B-1
Q68	B-2
Q69	B-3
Q70	B-4
Q71	A-3
Q72	A-3
Q73	B-3
Q74	A-3
Q75	A-2
Q76	A-1
Q77	I-1
RV1	H-1
RV2	E-5
RV3	C-5
RV4	C-5
RV5	A-5
RV6	B-2
RV7	B-3
RV8	D-5
S1	B-5
TP1	F-3
TP2	I-5
TP3	E-5
TP4	D-5
TP5	D-5
TP6	C-5
TP7	A-4
TP8	A-3
TP9	I-1
TP10	B-5
TP11	A-1
TP12	C-1





IE-28(1-638-044-11)

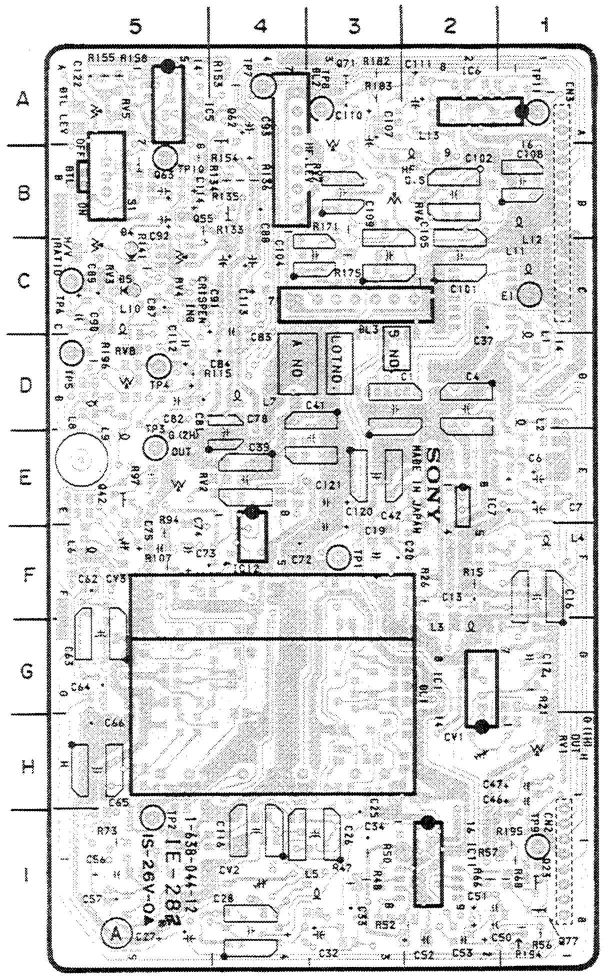
CN2	H-1
CN3	B-1
CV1	H-2
CV2	I-4
CV3	F-5
D1	A-2
D2	I-3
D3	E-5
D4	B-5
D5	C-5
DL1	G-2
DL2	A-3
DL3	C-3
IC1	G-2
IC5	A-5
IC6	A-2
IC7	E-2
IC8	C-1
IC9	C-3
IC10	I-2
IC11	I-2
IC12	F-4
IC13	C-5
L1	D-1
L2	D-1
L3	G-2
L4	F-1
L5	I-3
L6	E-5
L7	D-4
L8	D-5
L9	E-5
L10	C-5
L11	C-1
L12	B-1
L13	A-2
Q1	E-2
Q2	E-2
Q3	F-1
Q4	G-1
Q5	G-2
Q6	F-2
Q7	F-2
Q8	F-2
Q9	F-3
Q10	E-3
Q11	I-3
Q12	H-3
Q13	G-3
Q14	G-3
Q15	G-3
Q16	I-3
Q17	I-4
Q18	I-5
Q19	I-4
Q21	I-3
Q22	I-3
Q23	I-1
Q24	C-1
Q25	I-1
Q26	I-1
Q27	I-2
Q28	I-5
Q29	I-5
Q30	I-5
Q31	I-5
Q32	I-5
Q33	H-5
Q34	H-5
Q35	G-5
Q36	G-4
Q37	G-5
Q38	G-5
Q39	G-5
Q41	E-5
Q42	E-5
Q43	E-5
Q44	E-4
Q45	F-4
Q46	F-4
Q47	I-1
Q48	C-4
Q49	D-5
Q50	E-5
Q51	D-5
Q52	C-5
Q53	C-5
Q54	C-5
Q55	C-4
Q56	B-4
Q57	B-4
Q58	B-5
Q59	B-5
Q61	B-5
Q62	A-4
Q63	B-5
Q64	A-4
Q65	C-3
Q66	C-4
Q67	B-1
Q68	B-2
Q69	B-3
Q70	B-4
Q71	A-3
Q72	A-3
Q73	B-3
Q74	A-3
Q75	A-2
Q76	A-1
Q77	I-1
RV1	H-1
RV2	E-5
RV3	C-5
RV4	C-5
RV5	A-5
RV6	B-2
RV7	B-3
RV8	D-5
S1	B-5
TP1	F-3
TP2	I-5
TP3	E-5
TP4	D-5
TP5	D-5
TP6	C-5
TP7	A-4
TP8	A-3
TP9	I-1
TP10	B-5
TP11	A-1
TP12	C-1

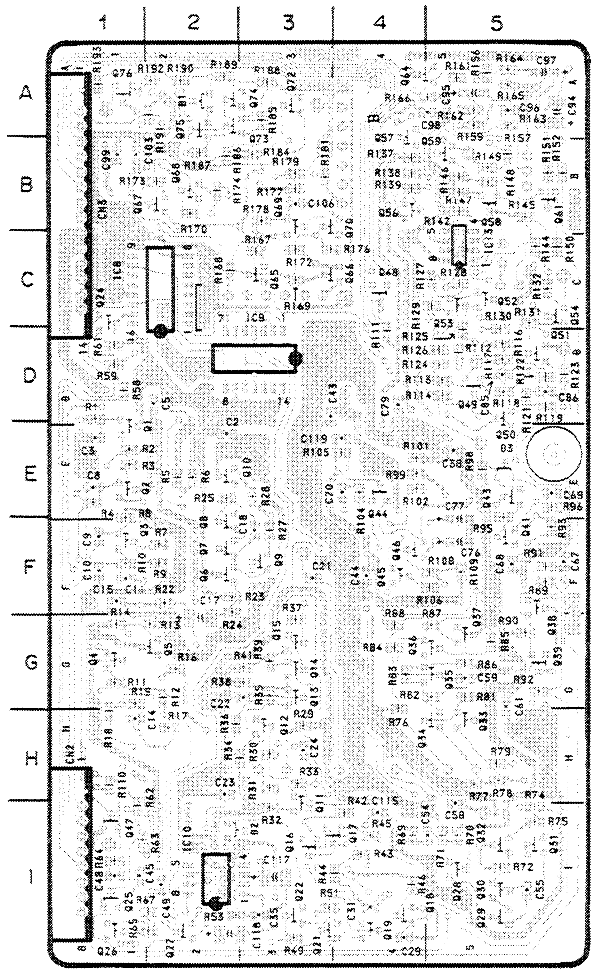
IE-28 BOARD

S/N J ; 30041 and higher
UC; 10061 and higher
EK; 40051 and higher

IE-28(1-638-044-12)

CN2	H-1
CN3	B-1
CV1	H-2
CV2	I-4
CV3	F-5
D1	A-2
D2	I-3
D3	E-5
D4	B-5
D5	C-5
DL1	G-2
DL2	A-3
DL3	C-3
E1	C-1
IC1	G-2
IC5	A-5
IC6	A-2
IC7	E-2
IC8	C-1
IC9	C-3
IC10	I-2
IC11	I-2
IC12	F-4
IC13	C-5
L1	D-1
L2	D-1
L3	G-2
L4	F-1
L5	I-3
L6	F-5
L7	D-4
L8	D-5
L9	E-5
L10	C-5
L11	C-1
L12	B-1
L13	A-2
Q1	E-2
Q2	E-2
Q3	F-1
Q4	G-1
Q5	G-2
Q6	F-2
Q7	F-2
Q8	F-2
Q9	F-3
Q10	E-3
Q11	I-3
Q12	H-3
Q13	G-3
Q14	G-3
Q15	G-3
Q16	I-3
Q17	I-4
Q18	I-5
Q19	I-4
Q21	I-3
Q22	I-3
Q23	I-1
Q24	C-1
Q25	I-1
Q26	I-1
Q27	I-2
Q28	I-5
Q29	I-5
Q30	I-5
Q31	I-5
Q32	I-5
Q33	H-5
Q34	H-5
Q35	G-5
Q36	G-4
Q37	G-5
Q38	G-5
Q39	G-5
Q41	F-5
Q42	E-5
Q43	E-5
Q44	E-4
Q45	F-4
Q46	F-4
Q47	I-1
Q48	C-4
Q49	D-5
Q50	E-5
Q51	D-5
Q52	C-5
Q53	C-5
Q54	C-5
Q55	B-5
Q56	B-4
Q57	B-4
Q58	B-5
Q59	B-5
Q61	B-5
Q62	A-4
Q63	B-5
Q64	A-4
Q65	C-3
Q66	C-4
Q67	B-1
Q68	B-2
Q69	B-3
Q70	B-4
Q71	A-3
Q72	A-3
Q73	B-3
Q74	A-3
Q75	A-2
Q76	A-1
Q77	I-1
RV1	H-1
RV2	E-5
RV3	C-5
RV4	C-5
RV5	A-5
RV6	B-2
RV7	B-3
RV8	D-5
S1	B-5
TP1	F-3
TP2	I-5
TP3	E-5
TP4	D-5
TP5	D-5
TP6	C-5
TP7	A-4
TP8	A-3
TP9	I-1
TP10	B-5
TP11	A-1


5
4
3
2
1
A
B
C
D
E
F
G
H
I
SONY
MADE IN JAPAN
1-638-044-12
IE-28
IS-26V-0A
S1
TP1
TP3
TP4
TP7
TP8
TP9
TP10
TP11
CV1
CV2
CV3
CN3
RV1
RV2
RV3
RV4
RV5
RV6
RV7
RV8
IC5
IC6
IC7
IC12
IC13
Q71
R182
C111
R155
R156
R195
C50
C52
C53
R194
C27
C32
C57
C56
C65
C66
C64
C62
C63
R73


1
2
3
4
5
A
B
C
D
E
F
G
H
I
CN3
CN2
C99
C48
R164
Q26
Q27
C29
R53
R49

1-638-044-12 SOLDERING SIDE

IE-28(1-638-044-12)

CN2	H-1
CN3	B-1
CV1	H-2
CV2	I-4
CV3	F-5
D1	A-2
D2	I-3
D3	E-5
D4	B-5
D5	C-5
DL1	G-2
DL2	A-3
DL3	C-3
E1	C-1
IC1	G-2
IC5	A-5
IC6	A-2
IC7	E-2
IC8	C-1
IC9	C-3
IC10	I-2
IC11	I-2
IC12	F-4
IC13	C-5
L1	D-1
L2	D-1
L3	G-2
L4	F-1
L5	I-3
L6	F-5
L7	D-4
L8	D-5
L9	E-5
L10	C-5
L11	C-1
L12	B-1
L13	A-2
Q1	E-2
Q2	E-2
Q3	F-1
Q4	G-1
Q5	G-2
Q6	F-2
Q7	F-2
Q8	F-2
Q9	F-3
Q10	E-3
Q11	I-3
Q12	H-3
Q13	G-3
Q14	G-3
Q15	G-3
Q16	I-3
Q17	I-4
Q18	I-5
Q19	I-4
Q21	I-3
Q22	I-3
Q23	I-1
Q24	C-1
Q25	I-1
Q26	I-1
Q27	I-2
Q28	I-5
Q29	I-5
Q30	I-5
Q31	I-5
Q32	I-5
Q33	H-5
Q34	H-5
Q35	G-5
Q36	G-4
Q37	G-5
Q38	G-5
Q39	G-5
Q41	F-5
Q42	E-5
Q43	E-5
Q44	E-4
Q45	F-4
Q46	F-4
Q47	I-1
Q48	C-4
Q49	D-5
Q50	E-5
Q51	D-5
Q52	C-5
Q53	C-5
Q54	C-5
Q55	B-5
Q56	B-4
Q57	B-4
Q58	B-5
Q59	B-5
Q61	B-5
Q62	A-4
Q63	B-5
Q64	A-4
Q65	C-3
Q66	C-4
Q67	B-1
Q68	B-2
Q69	B-3
Q70	B-4
Q71	A-3
Q72	A-3
Q73	B-3
Q74	A-3
Q75	A-2
Q76	A-1
Q77	I-1
RV1	H-1
RV2	E-5
RV3	C-5
RV4	C-5
RV5	A-5
RV6	B-2
RV7	B-3
RV8	D-5
S1	B-5
TP1	F-3
TP2	I-5
TP3	E-5
TP4	D-5
TP5	D-5
TP6	C-5
TP7	A-4
TP8	A-3
TP9	I-1
TP10	B-5
TP11	A-1

IE-28 BOARD

注意：

1．ＤＣ電圧はデジタル電圧計による値。

2．波形写真、及びＤＣ電圧は下記条件での測定。

- 本機にCA-537を接続する。
- グレースケールチャートを撮像し、波形モニターにて、ビデオ出力の白レベルが 100 IREになる様にレンズ絞りをセットする。

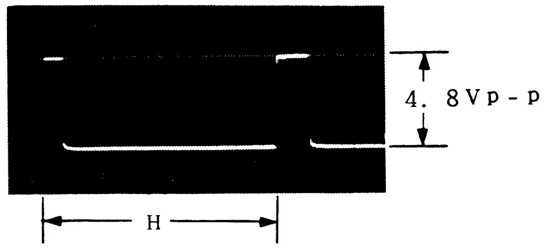
・OUTPUT : CAM
・GAIN : 0dB
・WHITE BAL : PRE
・SHUTTER : OFF
・ZEBRA MARKER : OFF OFF
・PHASE : 0°

NOTE :

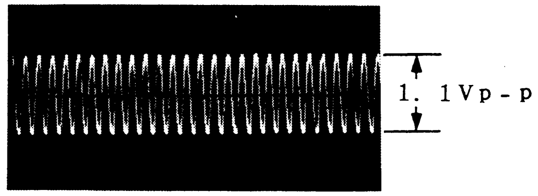
1. All voltage are DC.measured with a digital voltmeter.
2. All waveforms are taken and DC voltage is measured in condition below.
   - Connect the camera adapter CA-537 to the camera.
   - Shoot the grayscale chart. Ajust lens iris so that a white level is 100IRE on the waveform monitor.

・OUTPUT : CAM
・GAIN : 0dB
・WHITE BAL : PRE
・SHUTTER : OFF
・ZEBRA MARKER : OFF OFF
・PHASE : 0°

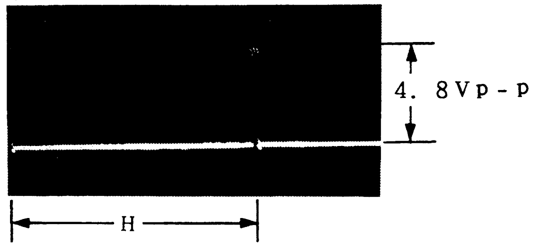
CN2−3pin
P BLKG



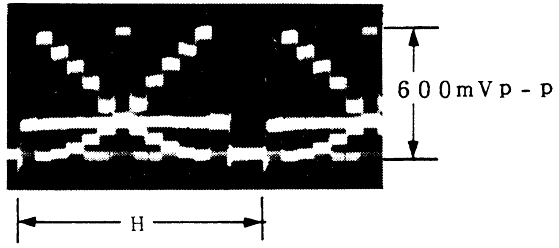
CN2−1pin
28MHz



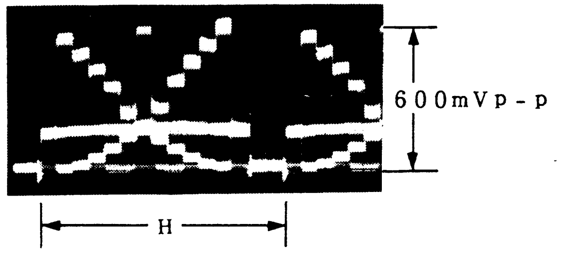
CN2−4pin
CLP



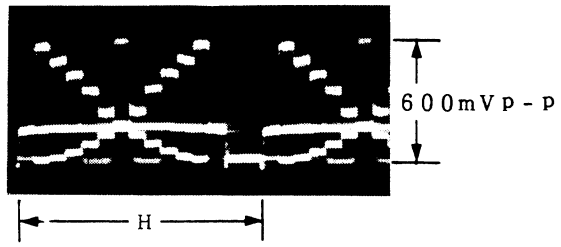
CN3−6pin
G



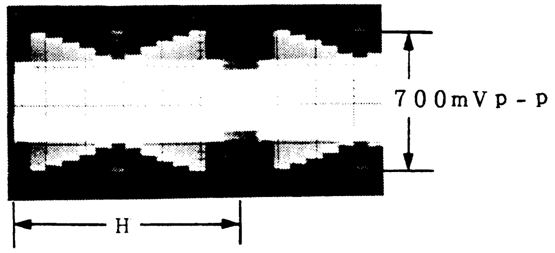
CN3−4pin
R



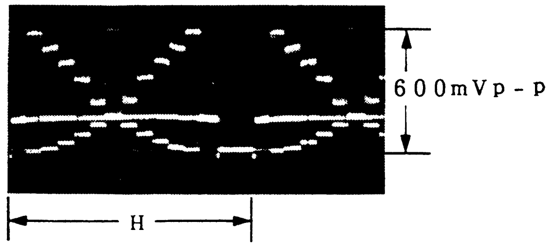
IC1−1pin
IC1 G IN



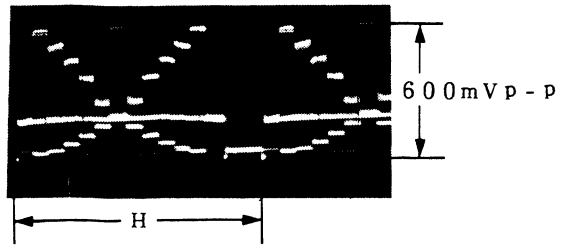
IC1−12pin
IC1 G OUT



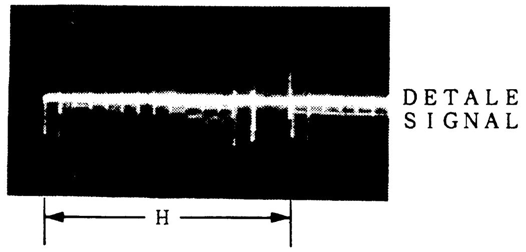
TP9
G IE VIDEO



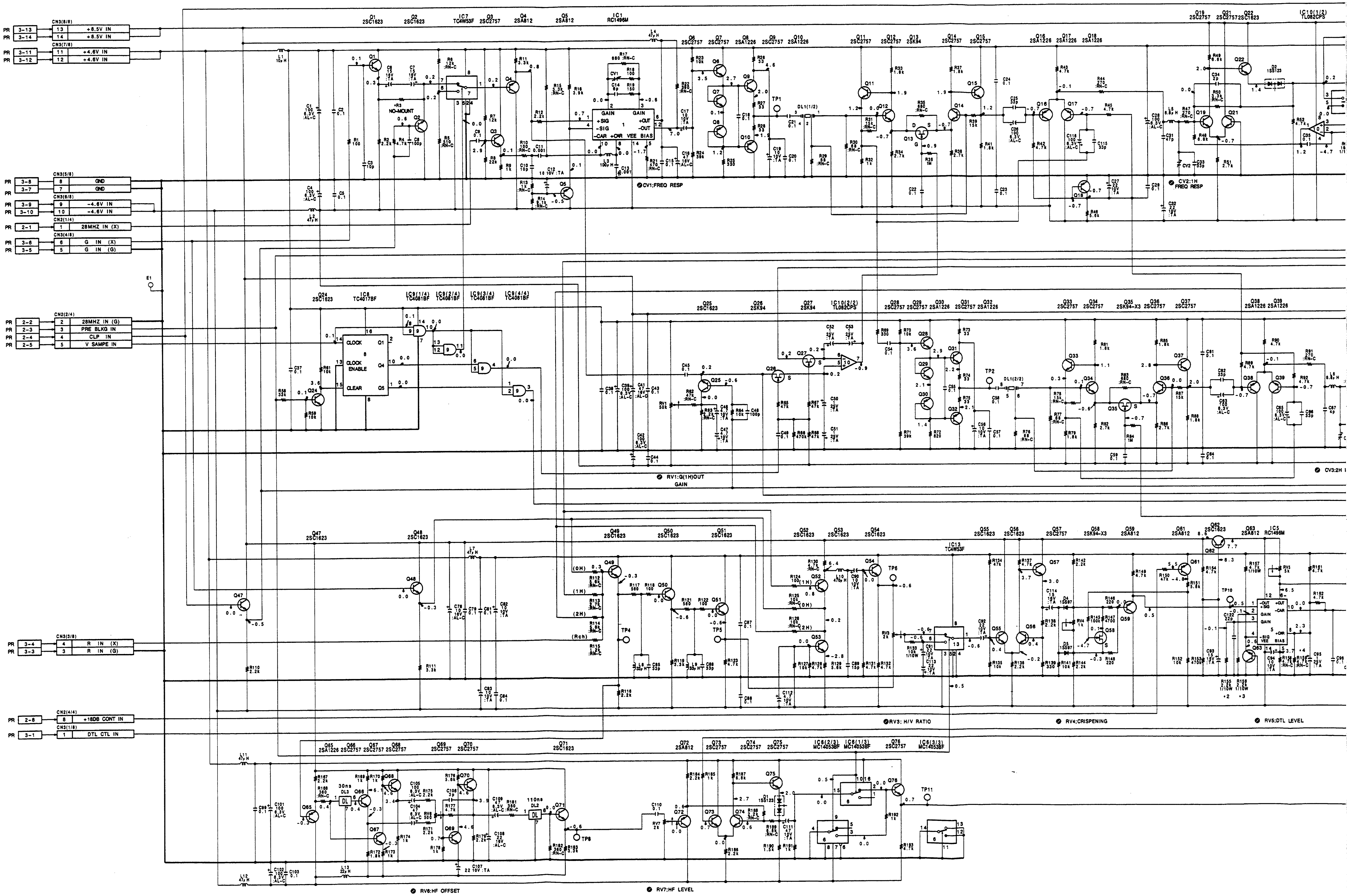
TP3
2H DELAYED G



TP11
DTL



IE-28 BOARD

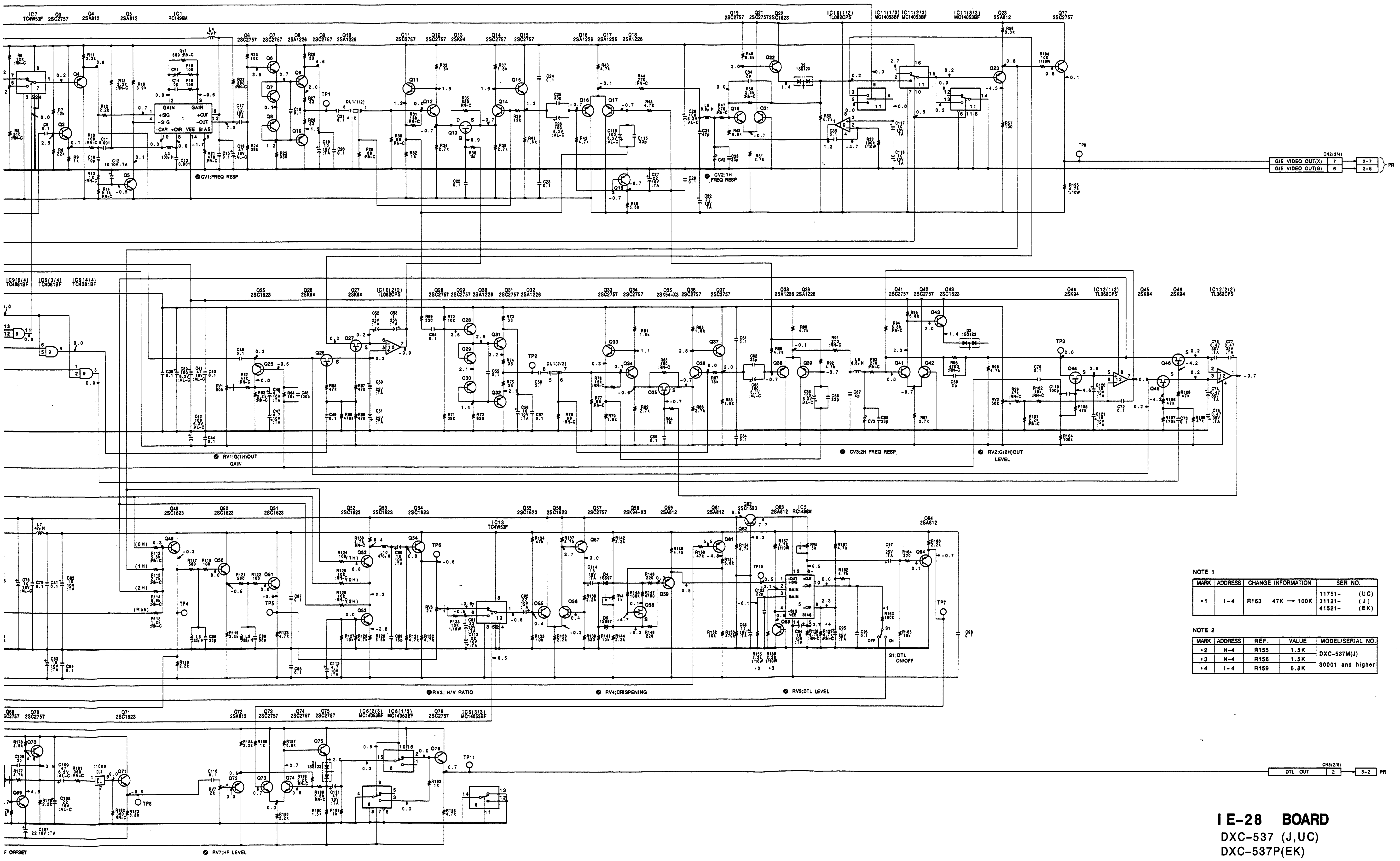

PR 3-13 CN3(8/8) 13 +8.5V IN
PR 3-14 14 +8.5V IN
PR 3-11 CN3(7/8) 11 +4.6V IN
PR 3-12 12 +4.6V IN
PR 3-8 CN3(5/8) 8 GND
PR 3-7 7 GND
PR 3-9 CN3(6/8) 9 -4.6V IN
PR 3-10 10 -4.6V IN
PR 2-1 CN2(1/4) 1 28MHZ IN (X)
PR 3-6 CN3(4/8) 6 G IN (X)
PR 3-5 5 G IN (G)
E1
PR 2-2 CN2(2/4) 2 28MHZ IN (G)
PR 2-3 3 PRE BLKG IN
PR 2-4 4 CLP IN
PR 2-5 5 V SAMPE IN
PR 3-4 CN3(3/8) 4 R IN (X)
PR 3-3 3 R IN (G)
PR 2-8 CN2(4/4) 8 +18DB CONT IN
PR 3-1 CN3(1/8) 1 DTL CTL IN
IC1 RC1496M
IC7 TC4W53F
IC8 TC4017BF
IC9(1/4) TC4081BF
IC10(1/2) TL082CPS
IC10(2/2) TL082CPS
IC13 TC4W53F
IC5 RC1496M
IC6(2/3) MC14053BF
IC6(1/3) MC14053BF
IC6(3/3) MC14053BF
CV1;FREQ RESP
CV2:1H FREQ RESP
RV1:G(1H)OUT GAIN
CV3:2H
RV3: H/V RATIO
RV4;CRISPENING
RV5:DTL LEVEL
RV6:HF OFFSET
RV7:HF LEVEL
TP1
TP2
TP4
TP5
TP6
TP8
TP10
TP11
DL1(1/2)
DL1(2/2)
30ns DL3
110ns DL2

DXC-537 (J,UC)
DXC-537P(EK)

C-33

C-34

A | B | C | D | E | F | G | H |


IC7 TC4W53F
Q3 2SC2757
Q4 2SA812
Q5 2SA812
IC1 RC1496M
L4 47μH
Q6 2SC2757
Q7 2SC2757
Q8 2SA1226
Q9 2SC2757
Q10 2SA1226
Q11 2SC2757
Q12 2SC2757
Q13 2SK94
Q14 2SC2757
Q15 2SC2757
Q16 2SA1226
Q17 2SA1226
Q18 2SA1226
Q19 2SC2757
Q21 2SC2757
Q22 2SC1623
IC10(1/2) TL082CPS
IC11(1/3) MC14053BF
IC11(2/3) MC14053BF
IC11(3/3) MC14053BF
Q23 2SA812
Q77 2SC2757
TP1
TP9
DL1(1/2)
CV1:FREQ RESP
CV2:1H FREQ RESP
CN2(3/4)
GIE VIDEO OUT(X) 7
GIE VIDEO OUT(G) 8
2-7
2-6
PR
IC9(2/4) TC4081BF
IC9(3/4) TC4081BF
IC9(4/4) TC4081BF
Q25 2SC1623
Q26 2SK94
Q27 2SK94
IC10(2/2) TL082CPS
Q28 2SC2757
Q29 2SC2757
Q30 2SA1226
Q31 2SC2757
Q32 2SA1226
Q33 2SC2757
Q34 2SC2757
Q35 2SK94-X3
Q36 2SC2757
Q37 2SC2757
Q38 2SA1226
Q39 2SA1226
Q41 2SC2757
Q42 2SC2757
Q43 2SC1623
Q44 2SK94
IC12(1/2) TL082CPS
Q45 2SK94
Q46 2SK94
IC12(2/2) TL082CPS
TP2
TP3
DL1(2/2)
RV1:G(1H)OUT GAIN
CV3:2H FREQ RESP
RV2:G(2H)OUT LEVEL
Q49 2SC1623
Q50 2SC1623
Q51 2SC1623
Q52 2SC1623
Q53 2SC1623
Q54 2SC1623
IC13 TC4W53F
Q55 2SC1623
Q56 2SC1623
Q57 2SC2757
Q58 2SK94-X3
Q59 2SA812
Q61 2SA812
Q62 2SC1623
Q63 2SA812
IC5 RC1496M
Q64 2SA812
L7 47μH
(0H)
(1H)
(2H)
(Rch)
TP4
TP5
TP6
TP7
TP10
S1
S1:DTL ON/OFF
OFF
ON
RV3: H/V RATIO
RV4:CRISPENING
RV5:DTL LEVEL
Q69 2SC2757
Q70 2SC2757
Q71 2SC1623
Q72 2SA812
Q73 2SC2757
Q74 2SC2757
Q75 2SC2757
IC6(2/3) MC14053BF
IC6(1/3) MC14053BF
Q76 2SC2757
IC6(3/3) MC14053BF
DL2
TP8
TP11
CN3(2/8)
DTL OUT 2
3-2
PR
F OFFSET
RV7:HF LEVEL
1
2
3
4
5

NOTE 1

MARK	ADDRESS	CHANGE INFORMATION	SER NO.
•1	I-4	R163 47K → 100K	11751- (UC) 31121- (J) 41521- (EK)

NOTE 2

MARK	ADDRESS	REF.	VALUE	MODEL/SERIAL NO.
•2	H-4	R155	1.5K	DXC-537M(J) 30001 and higher
•3	H-4	R156	1.5K	
•4	I-4	R159	6.8K	

IE-28 BOARD

DXC-537 (J,UC)
DXC-537P(EK)
DXC-537M(J)

C-34 C-35

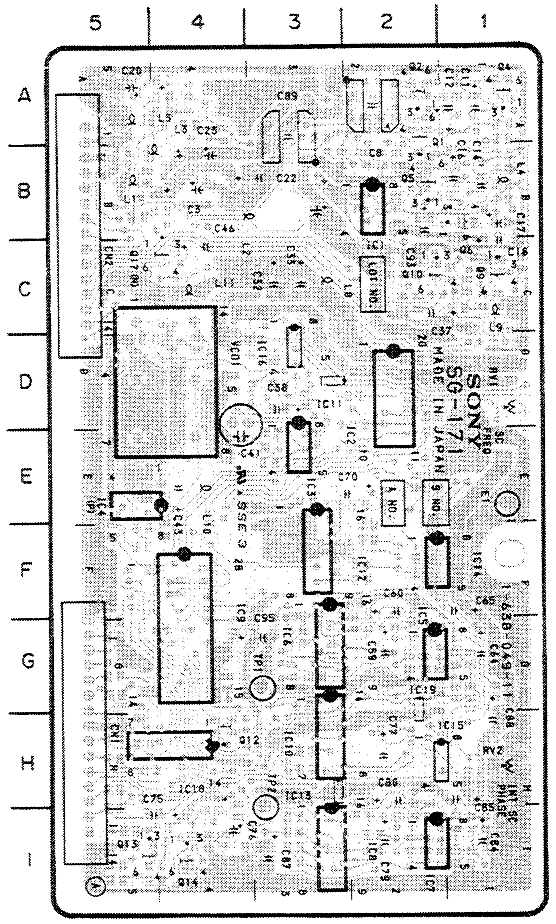
E F G H I J K L

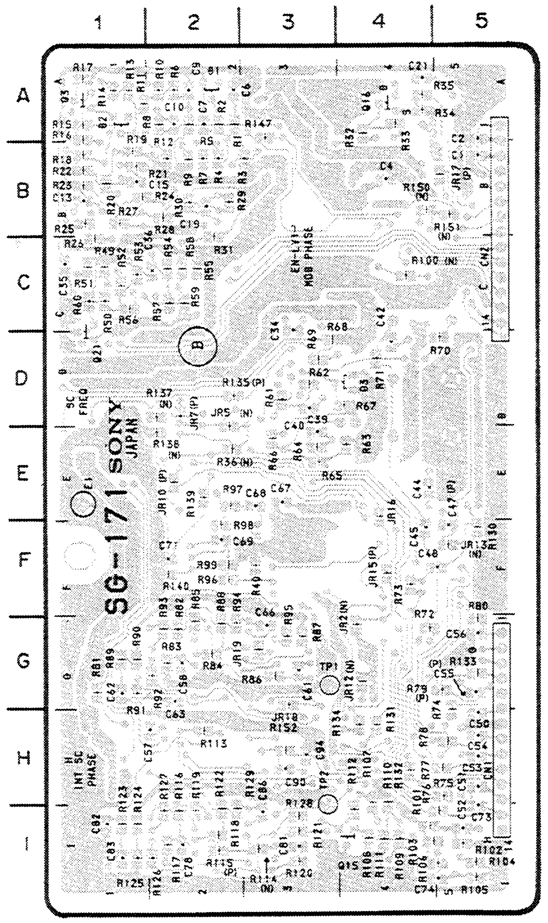
SG-171 BOARD

S/N J ; 30001 through 30590
UC; 10001 through 10840
EK; 40001 through 40690

SG-171(1-638-049-11)

CN1	H-5	Q1	A-1
CN2	C-5	Q2	A-2
		Q3	A-1
D1	A-2	Q4	A-1
D2	A-1	Q5	B-2
D3	D-4	Q6	C-1
		Q9	C-1
E1	E-1	Q10	C-2
		Q12	H-4
IC1	C-2	Q13	I-5
IC2	E-2	Q14	I-4
IC3	E-3	Q15	I-4
IC4	E-5	Q16	A-4
IC5	F-2	Q17	C-5
IC6	G-3	Q21	D-1
IC7	I-2		
IC8	I-2	RV1	D-1
IC9	F-4		
IC10	H-3	TP1	G-3
IC11	D-3	TP2	H-3
IC12	F-2		
IC13	H-3		
IC14	F-1		
IC15	H-1		
IC16	D-3		
IC18	H-4		
IC19	G-2		
L1	B-5		
L2	C-3		
L3	A-4		
L4	B-1		
L5	A-4		
L8	C-2		
L9	C-1		
L10	E-4		
L11	C-4		





1-638-049-11 SOLDERING SIDE

SG-171(1-638-049-11)

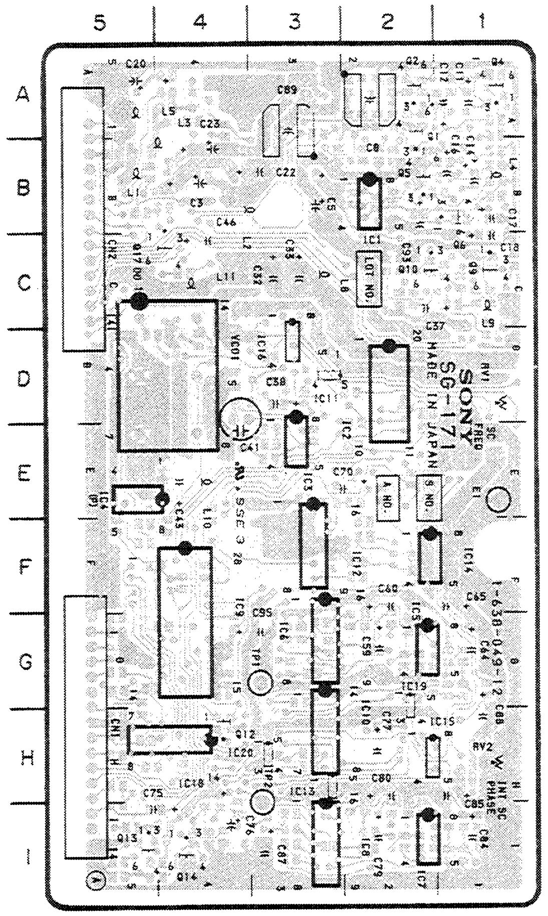
CN1	H-5	Q1	A-1
CN2	C-5	Q2	A-2
		Q3	A-1
D1	A-2	Q4	A-1
D2	A-1	Q5	B-2
D3	D-4	Q6	C-1
		Q9	C-1
E1	E-1	Q10	C-2
		Q12	H-4
IC1	C-2	Q13	I-5
IC2	E-2	Q14	I-4
IC3	E-3	Q15	I-4
IC4	E-5	Q16	A-4
IC5	F-2	Q17	C-5
IC6	G-3	Q21	D-1
IC7	I-2		
IC8	I-2	RV1	D-1
IC9	F-4		
IC10	H-3	TP1	G-3
IC11	D-3	TP2	H-3
IC12	F-2		
IC13	H-3		
IC14	F-1		
IC15	H-1		
IC16	D-3		
IC18	H-4		
IC19	G-2		
L1	B-5		
L2	C-3		
L3	A-4		
L4	B-1		
L5	A-4		
L8	C-2		
L9	C-1		
L10	E-4		
L11	C-4		

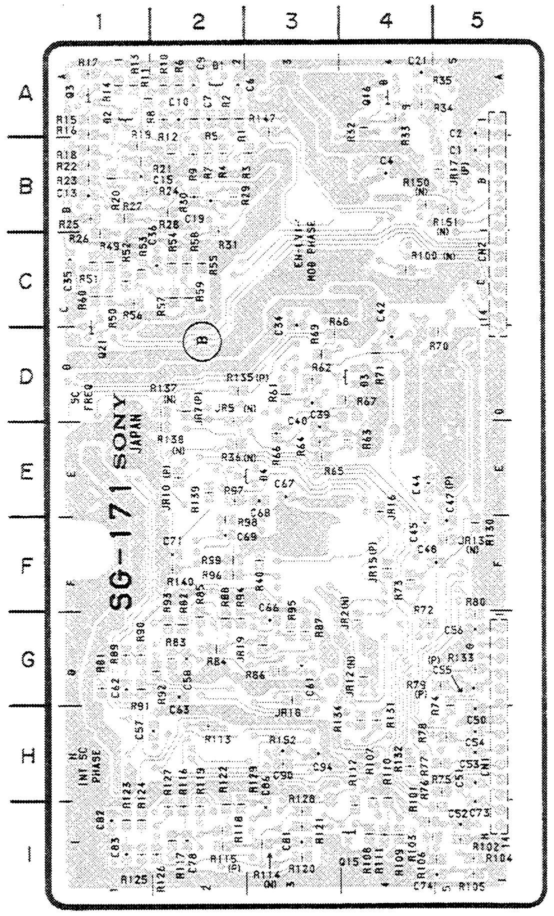
SG-171 BOARD

S/N J ; 30591 through 31370
UC; 10841 through 12200
EK; 40691 through 42390

SG-171(1-638-049-12)

CN1	H-5
CN2	C-5
D1	A-2
D2	A-1
D3	D-4
D4	E-3
E1	E-1
IC1	C-2
IC2	E-2
IC3	E-3
IC4	E-5
IC5	F-2
IC6	G-3
IC7	I-2
IC8	I-2
IC9	F-4
IC10	H-2
IC11	D-3
IC12	F-2
IC13	H-3
IC14	F-1
IC15	H-1
IC16	D-3
IC18	H-4
IC19	G-2
IC20	H-4
L1	B-5
L2	C-4
L3	A-4
L4	B-1
L5	A-4
L8	C-2
L9	C-1
L10	E-4
L11	C-4
Q1	A-1
Q2	A-2
Q3	A-1
Q4	A-1
Q5	B-2
Q6	C-1
Q9	C-1
Q10	C-2
Q12	H-4
Q13	I-5
Q14	I-4
Q15	I-4
Q16	A-4
Q17	C-5
Q21	D-1
RV1	D-1
TP1	G-3
TP2	H-3


5
4
3
2
1
A
B
C
D
E
F
G
H
I
SONY
SG-171
MADE IN JAPAN
1-638-049-12
CN1
CN2
IC1
IC2
IC3
IC16
IC18
IC20
TP1
RV1


1
2
3
4
5
A
B
C
D
E
F
G
H
I
SONY
JAPAN
SG-171
SC FREQ
SC PHASE
H PHASE

1-638-049-12 SOLDERING SIDE

SG-171(1-638-049-12)

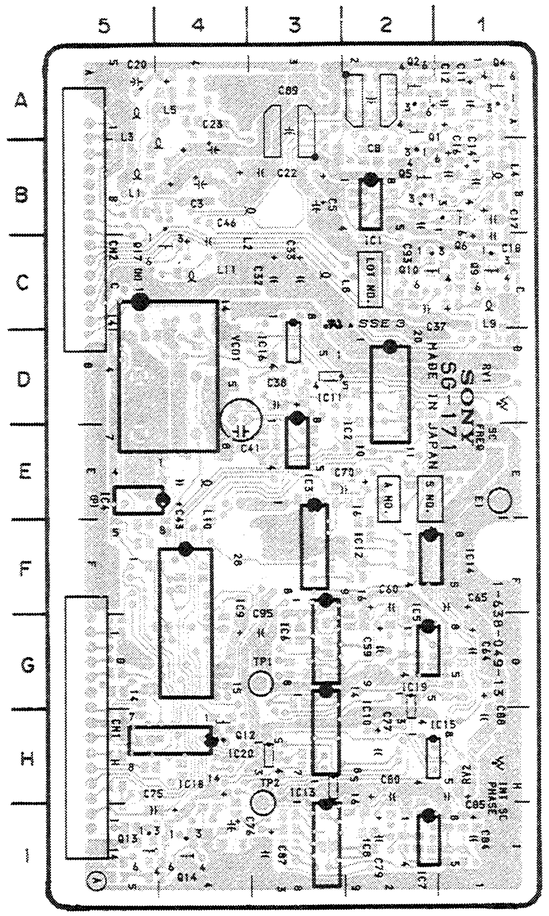
CN1	H-5
CN2	C-5
D1	A-2
D2	A-1
D3	D-4
D4	E-3
E1	E-1
IC1	C-2
IC2	E-2
IC3	E-3
IC4	E-5
IC5	F-2
IC6	G-3
IC7	I-2
IC8	I-2
IC9	F-4
IC10	H-2
IC11	D-3
IC12	F-2
IC13	H-3
IC14	F-1
IC15	H-1
IC16	D-3
IC18	H-4
IC19	G-2
IC20	H-4
L1	B-5
L2	C-4
L3	A-4
L4	B-1
L5	A-4
L8	C-2
L9	C-1
L10	E-4
L11	C-4
Q1	A-1
Q2	A-2
Q3	A-1
Q4	A-1
Q5	B-2
Q6	C-1
Q9	C-1
Q10	C-2
Q12	H-4
Q13	I-5
Q14	I-4
Q15	I-4
Q16	A-4
Q17	C-5
Q21	D-1
RV1	D-1
TP1	G-3
TP2	H-3

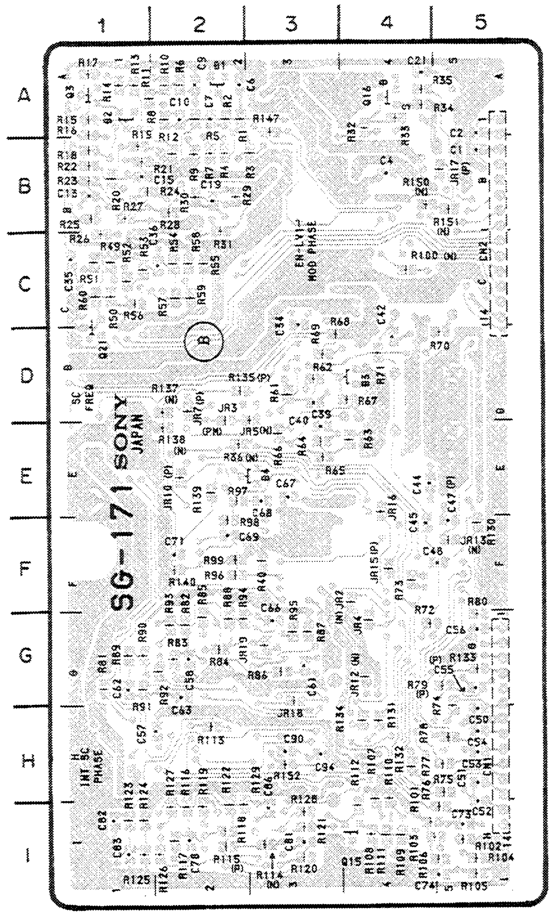
SG-171 BOARD

S/N J ; 31371 and higher
UC; 12201 and higher
EK; 42391 and higher

SG-171(1-638-049-13)

CN1	H-5
CN2	C-5
D1	A-2
D2	A-1
D3	D-4
D4	E-3
E1	E-1
IC1	C-2
IC2	E-2
IC3	E-3
IC4	E-5
IC5	F-2
IC6	G-3
IC7	I-2
IC8	I-2
IC9	F-4
IC10	H-2
IC11	D-3
IC12	F-2
IC13	H-3
IC14	F-1
IC15	H-1
IC16	D-3
IC18	H-4
IC19	G-2
IC20	H-4
L1	B-5
L2	C-3
L3	A-5
L4	B-1
L5	A-4
L8	C-2
L9	C-1
L10	E-4
L11	C-4
Q1	A-2
Q2	A-2
Q3	A-1
Q4	A-1
Q5	B-2
Q6	C-1
Q9	C-1
Q10	C-2
Q12	H-4
Q13	I-5
Q14	I-4
Q15	I-4
Q16	A-4
Q17	C-5
Q21	D-1
RV1	D-1
RV2	H-1
TP1	G-3
TP2	H-3





1-638-049-13 SOLDERING SIDE

SG-171(1-638-049-13)

CN1	H-5
CN2	C-5
D1	A-2
D2	A-1
D3	D-4
D4	E-3
E1	E-1
IC1	C-2
IC2	E-2
IC3	E-3
IC4	E-5
IC5	F-2
IC6	G-3
IC7	I-2
IC8	I-2
IC9	F-4
IC10	H-2
IC11	D-3
IC12	F-2
IC13	H-3
IC14	F-1
IC15	H-1
IC16	D-3
IC18	H-4
IC19	G-2
IC20	H-4
L1	B-5
L2	C-3
L3	A-5
L4	B-1
L5	A-4
L8	C-2
L9	C-1
L10	E-4
L11	C-4
Q1	A-2
Q2	A-2
Q3	A-1
Q4	A-1
Q5	B-2
Q6	C-1
Q9	C-1
Q10	C-2
Q12	H-4
Q13	I-5
Q14	I-4
Q15	I-4
Q16	A-4
Q17	C-5
Q21	D-1
RV1	D-1
RV2	H-1
TP1	G-3
TP2	H-3

SG-171 BOARD

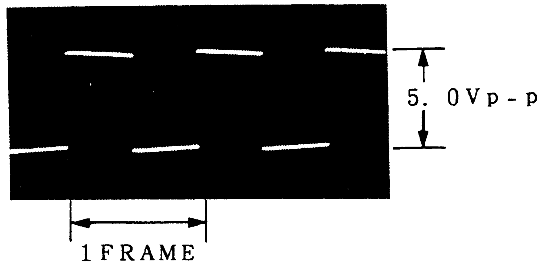
注意：

1. ＤＣ電圧はデジタル電圧計による値。
2. 波形写真、及びＤＣ電圧は下記条件での測定。
   - 本機にCA-537を接続する。
   - OUTPUT : BARS
   - GAIN : 0dB
   - WHITE BAL : PRE
   - SHUTTER : OFF
   - ZEBRA MARKER : OFF OFF
   - PHASE : 0°

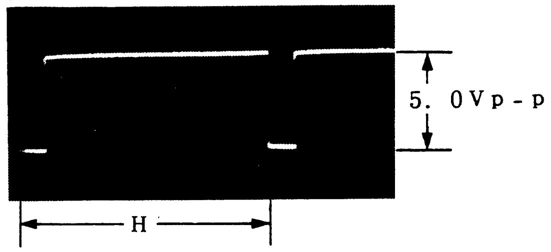
NOTE :

1. All voltage are DC, measured with a digital voltmeter.
2. All waveforms are taken and DC voltage is measured in condition below.
   - Connect the camera adapter CA-537 to the camera.
   - OUTPUT : BARS
   - GAIN : 0dB
   - WHITE BAL : PRE
   - SHUTTER : OFF
   - ZEBRA MARKER : OFF OFF
   - PHASE : 0°

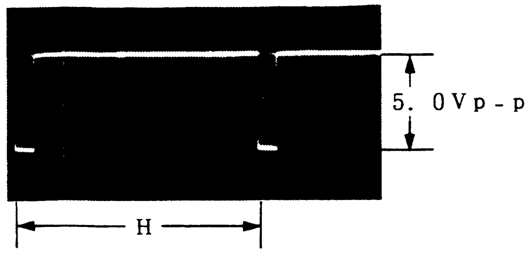
CN1-1pin
FLD



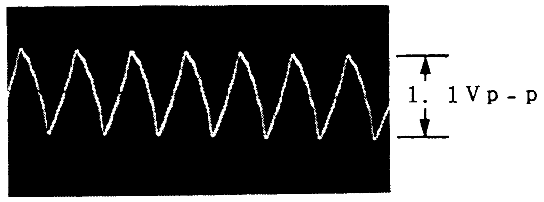
CN1-13pin
HD



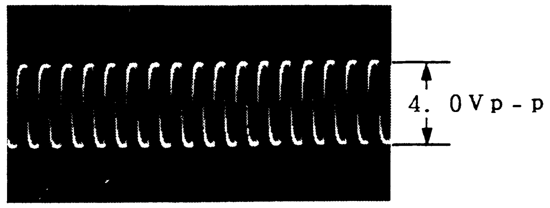
CN1-9pin
SYNC



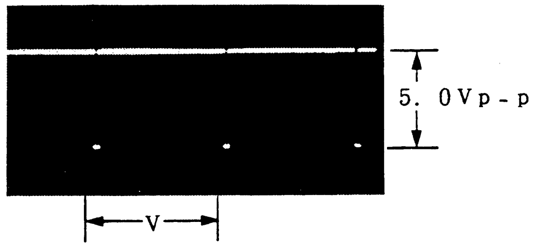
CN2-8pin
14MHz



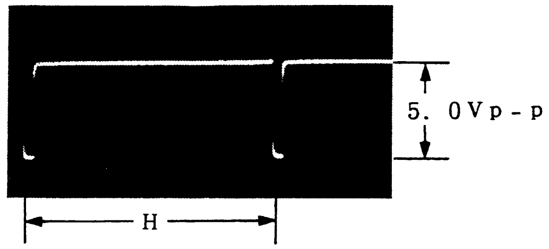
CN1-6pin
SC



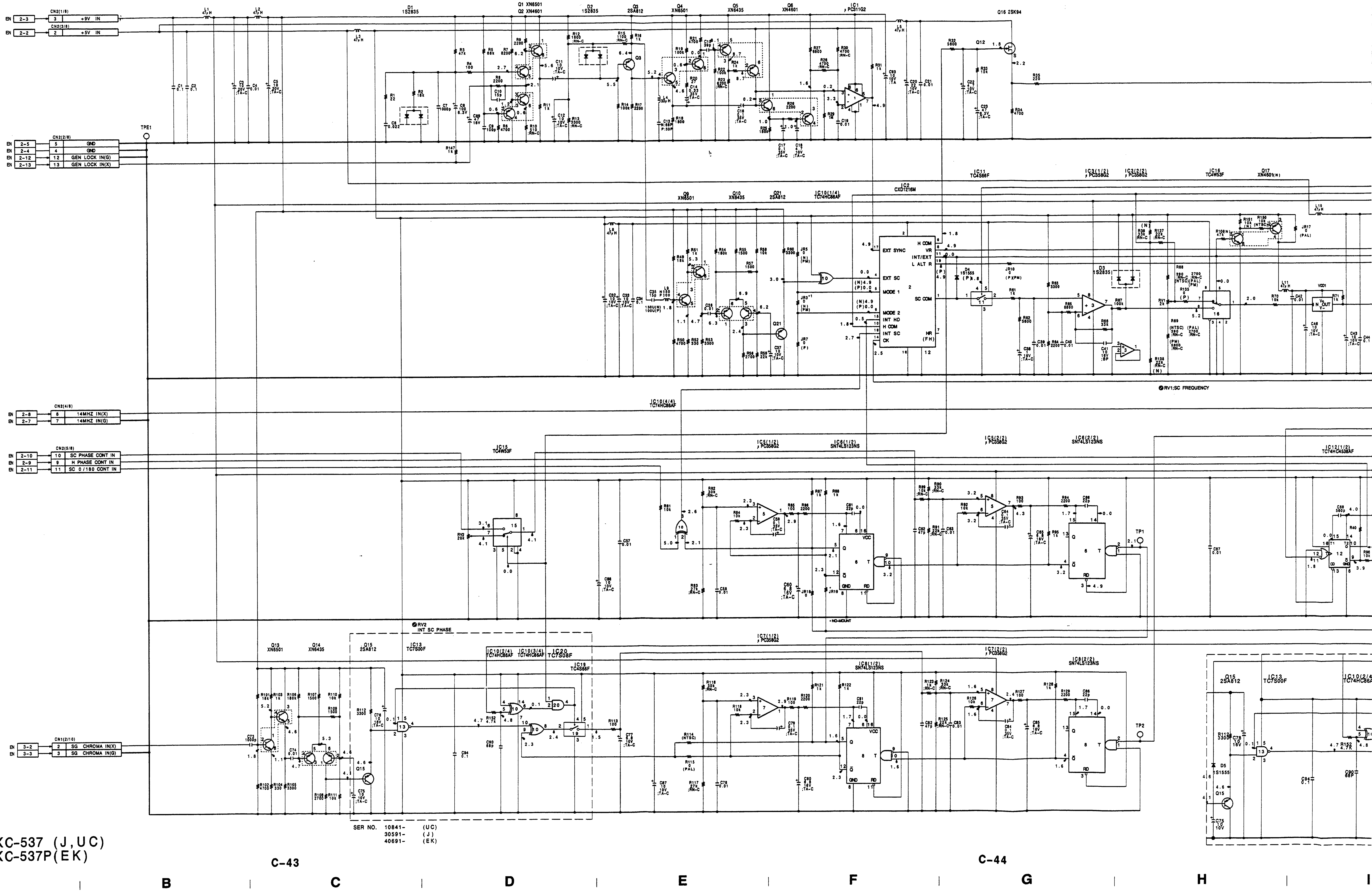
CN1-12pin
VD



CN1-8pin
BF



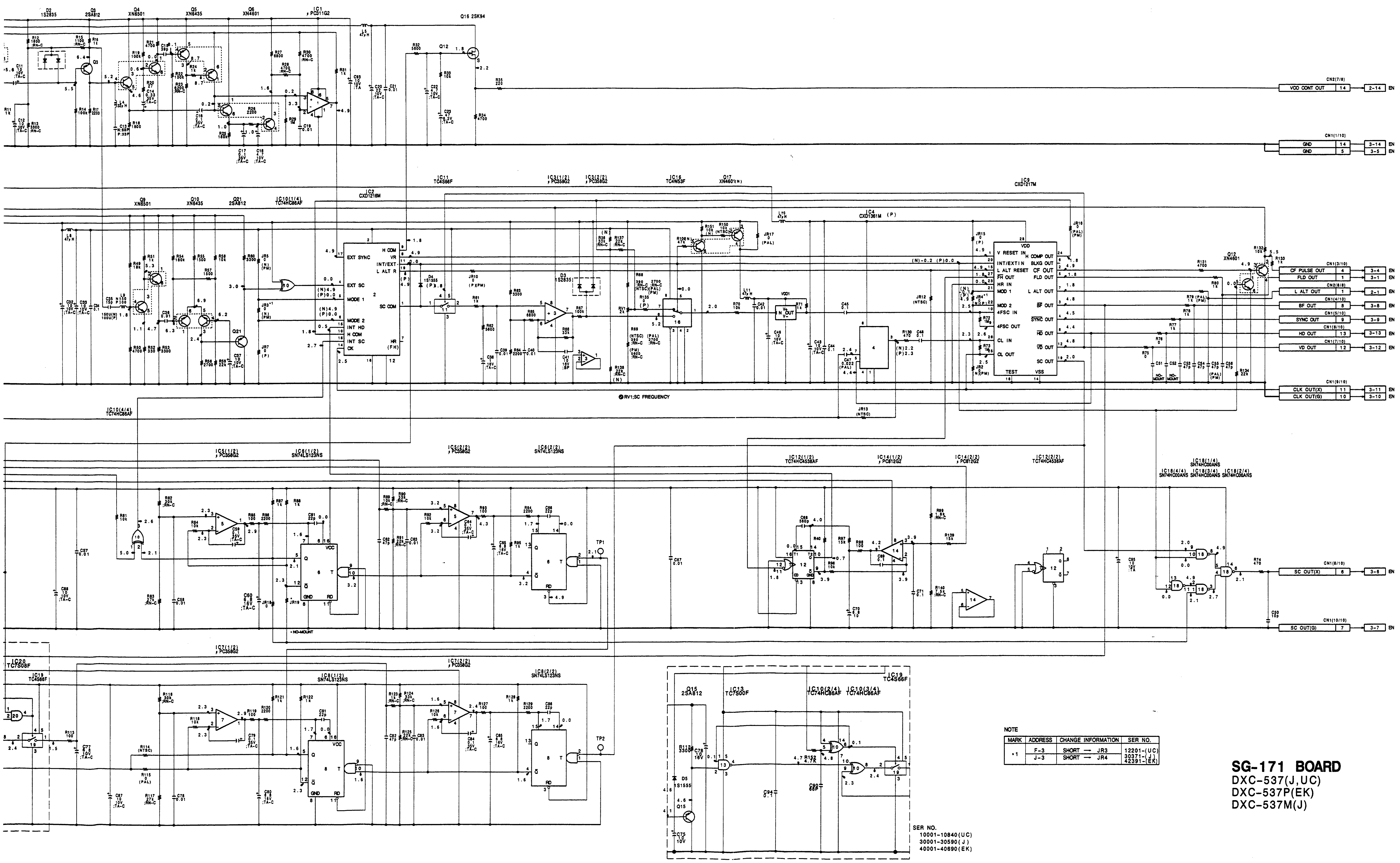
SG-171 BOARD


CN2(1/8)
+9V IN
CN2(3/8)
+5V IN
CN2(2/8)
GND
GND
GEN LOCK IN(G)
GEN LOCK IN(X)
TPE1
CN2(4/8)
14MHZ IN(X)
14MHZ IN(G)
CN2(5/8)
SC PHASE CONT IN
H PHASE CONT IN
SC 0/180 CONT IN
CN1(2/10)
SG CHROMA IN(X)
SG CHROMA IN(G)
D1 1S2835
Q1 XN6501
Q2 XN4601
Q2 1S2835
Q3 2SA812
Q4 XN6501
Q5 XN6435
Q6 XN4601
IC1 μPC311G2
Q16 2SK94
IC2 CXD1216M
EXT SYNC
H COM
VR
INT/EXT
L ALT R
EXT SC
MODE 1
SC COM
MODE 2
INT HD
H COM
INT SC
HR (FH)
CK
Q9 XN6501
Q10 XN6435
Q21 2SA812
IC10(1/4) TC74HC86AF
IC11 TC4S66F
IC3(1/2) μPC358G2
IC3(2/2) μPC358G2
IC16 TC4W53F
Q17 XN4601(N)
D4 1S1555
D3 1S2835
VCO1
RV1:SC FREQUENCY
IC10(4/4) TC74HC86AF
IC15 TC4W53F
IC5(1/2) μPC358G2
IC6(1/2) SN74LS123NS
IC5(2/2) μPC358G2
IC6(2/2) SN74LS123NS
IC12(1/2) TC74HC4538AF
TP1
*NO-MOUNT
RV2 INT SC PHASE
Q13 XN6501
Q14 XN6435
Q15 2SA812
IC13 TC7S00F
IC10(2/4) TC74HC86AF
IC10(3/4) TC74HC86AF
IC20 TC7S08F
IC19 TC4S66F
IC7(1/2) μPC358G2
IC8(1/2) SN74LS123NS
IC7(2/2) μPC358G2
IC8(2/2) SN74LS123NS
TP2
Q15 2SA812
IC13 TC7S00F
D5 1S1555
SER NO. 10841- (UC)
30591- (J)
40691- (EK)
A
B
C
D
E
F
G
H
I

DXC-537 (J,UC)
DXC-537P(EK)

C-43

C-44


D2 1S2835
Q3 2SA812
Q4 XN6501
Q5 XN6435
Q6 XN4601
IC1 μPC311G2
Q16 2SK94
Q12
VCO CONT OUT
CN2(7/8)
2-14
GND
CN1(1/10)
3-14
3-5
EN
Q9 XN6501
Q10 XN6435
Q21 2SA812
IC10(1/4) TC74HC86AF
IC2 CXD1216M
IC11 TC4S66F
IC3(1/2) μPC358G2
IC3(2/2) μPC358G2
IC16 TC4W53F
Q17 XN4601(N)
IC4 CXD1361M (P)
IC9 CXD1217M
Q12 XN4601
EXT SYNC
H COM
VR
INT/EXT
L ALT R
EXT SC
MODE 1
MODE 2
INT HD
H COM
INT SC
CK
SC COM
HR (FH)
VDD
V RESET IN
INT/EXTIN
L ALT RESET
FH OUT
HR IN
MOD 1
MOD 2
4FSC IN
4FSC OUT
CL IN
CL OUT
TEST
VSS
H COMP OUT
BLKG OUT
CF OUT
FLD OUT
L ALT OUT
BF OUT
SYNC OUT
HD OUT
VD OUT
SC OUT
CF PULSE OUT
FLD OUT
L ALT OUT
BF OUT
SYNC OUT
HD OUT
VD OUT
CLK OUT(X)
CLK OUT(G)
CN1(3/10)
CN2(8/8)
CN1(4/10)
CN1(5/10)
CN1(6/10)
CN1(7/10)
CN1(9/10)
3-4
3-1
2-1
3-8
3-9
3-13
3-12
3-11
3-10
RV1;SC FREQUENCY
IC10(4/4) TC74HC86AF
IC5(1/2) μPC358G2
IC6(1/2) SN74LS123NS
IC5(2/2) μPC358G2
IC6(2/2) SN74LS123NS
IC12(1/2) TC74HC4538AF
IC14(1/2) μPC812G2
IC14(2/2) μPC812G2
IC12(2/2) TC74HC4538AF
IC18(1/4) SN74HC00ANS
IC18(4/4) SN74HC00ANS
IC18(3/4) SN74HC00ANS
IC18(2/4) SN74HC00ANS
TP1
SC OUT(X)
CN1(8/10)
3-6
SC OUT(G)
CN1(10/10)
3-7
* NO-MOUNT
IC20 TC7S08F
IC19 TC4S66F
IC7(1/2) μPC358G2
IC8(1/2) SN74LS123NS
IC7(2/2) μPC358G2
IC8(2/2) SN74LS123NS
TP2
Q15 2SA812
IC13 TC7S00F
IC10(2/4) TC74HC86AF
IC10(3/4) TC74HC86AF
IC19 TC4S66F
D5 1S1555
Q15
SER NO.
10001-10840(UC)
30001-30590(J)
40001-40690(EK)
1
2
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5
C-44
C-45
E
F
G
H
I
J
K
L

NOTE

MARK	ADDRESS	CHANGE INFORMATION	SER NO.
*1	F-3	SHORT → JR3	12201-(UC) 30371-(J) 42391-(EK)
	J-3	SHORT → JR4	

SG-171 BOARD
DXC-537(J,UC)
DXC-537P(EK)
DXC-537M(J)

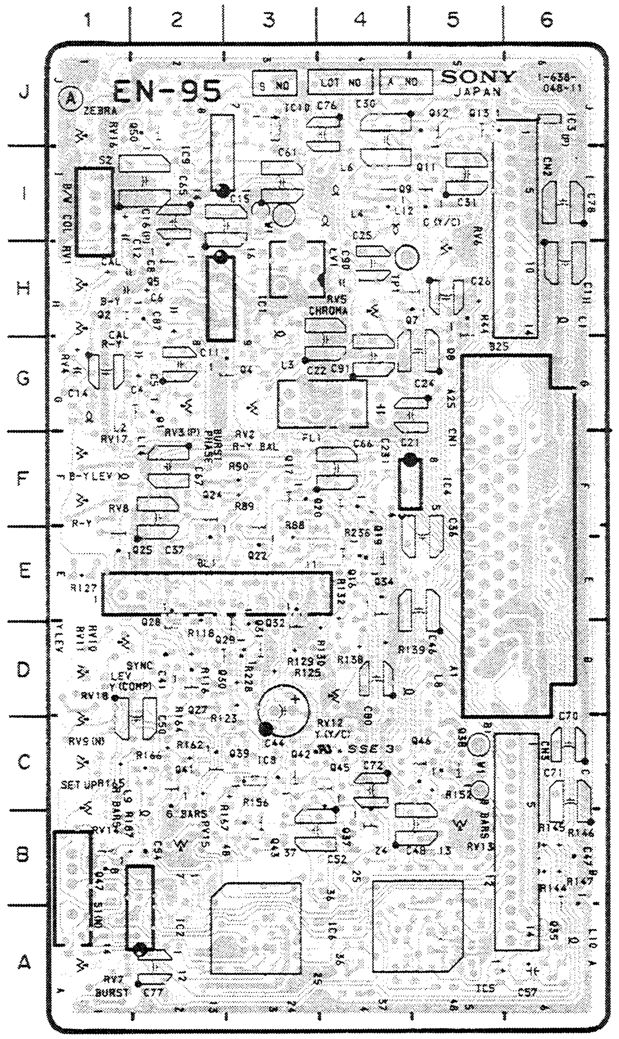
B-¥ DXC537-SG171/M

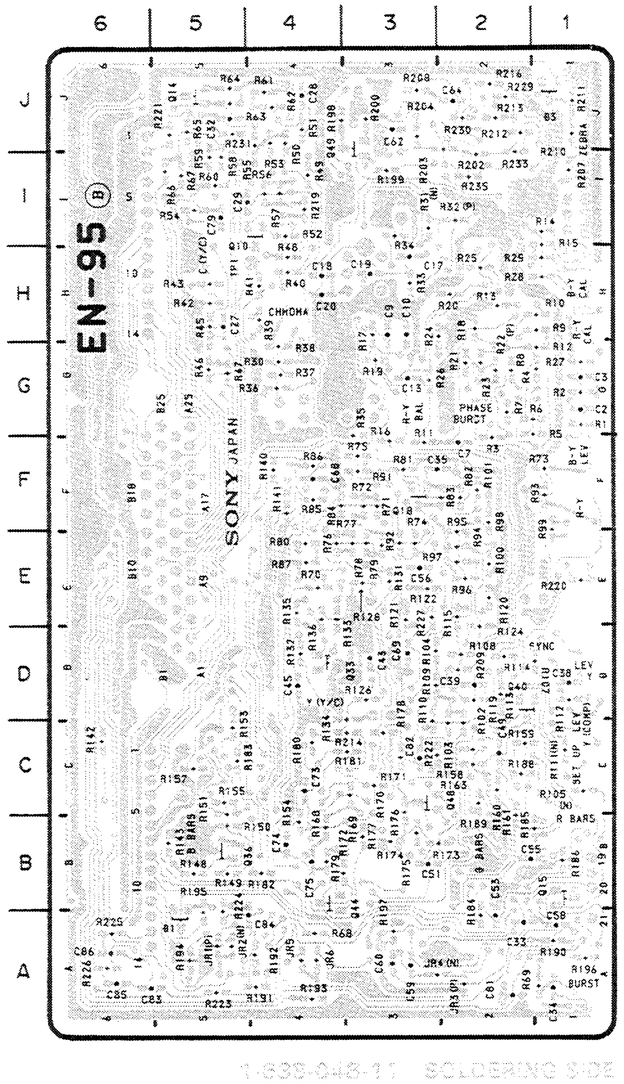
EN-95 BOARD

S/N J : 30001 through 30040
UC: 10001 through 10060
EK: 40001 through 40050

EN-95(1-638-048-11)

CN1	F-5
D1	E-2
D3	J-1
DL1	E-2
FL1	F-3
IC1	H-3
IC2	A-2
IC4	F-5
IC5	A-5
IC6	A-4
IC8	C-3
IC9	I-2
IC10	J-3
LV1	H-4
L1	G-6
L2	G-1
L3	G-3
L4	I-4
L6	I-4
L8	D-5
L9	C-1
L10	A-6
L12	L-4
L14	F-2
Q1	G-2
Q2	H-1
Q4	G-3
Q5	H-2
Q7	H-4
Q8	G-5
Q9	I-4
Q10	I-5
Q11	I-5
Q12	J-5
Q13	J-5
Q14	J-5
Q15	B-1
Q16	E-4
Q17	F-3
Q18	F-3
Q19	E-4
Q20	F-3
Q22	F-2
Q24	F-2
Q25	E-2
Q27	D-2
Q28	D-2
Q29	D-3
Q30	D-2
Q31	D-3
Q32	D-3
Q33	D-3
Q34	E-4
Q35	A-6
Q36	B-5
Q37	B-4
Q38	C-5
Q39	C-3
Q40	D-2
Q41	C-2
Q42	C-3
Q43	B-3
Q44	B-3
Q45	C-4
Q46	C-5
Q47	B-1
Q48	C-2
Q49	J-4
Q50	J-2
RV1	H-1
RV2	F-3
RV4	G-1
RV5	H-4
RV6	I-5
RV7	A-1
RV8	F-1
RV9	C-1
RV10	D-1
RV11	D-1
RV12	C-4
RV13	B-5
RV14	B-1
RV15	B-2
RV16	J-1
RV17	F-1
S1	A-1
S2	I-2
TP1	H-4





EN-95(1-638-048-11)

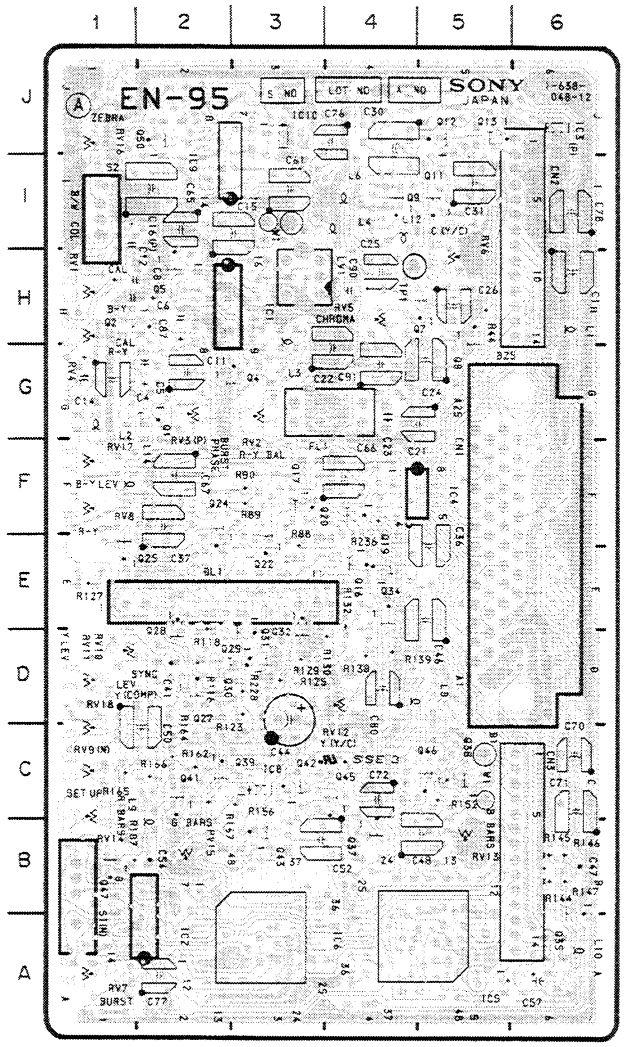
CN1	F-5
D1	E-2
D3	J-1
DL1	E-2
FL1	F-3
IC1	H-3
IC2	A-2
IC4	F-5
IC5	A-5
IC6	A-4
IC8	C-3
IC9	I-2
IC10	J-3
LV1	H-4
L1	G-6
L2	G-1
L3	G-3
L4	I-4
L6	I-4
L8	D-5
L9	C-1
L10	A-6
L12	L-4
L14	F-2
Q1	G-2
Q2	H-1
Q4	G-3
Q5	H-2
Q7	H-4
Q8	G-5
Q9	I-4
Q10	I-5
Q11	I-5
Q12	J-5
Q13	J-5
Q14	J-5
Q15	B-1
Q16	E-4
Q17	F-3
Q18	F-3
Q19	E-4
Q20	F-3
Q22	F-2
Q24	F-2
Q25	E-2
Q27	D-2
Q28	D-2
Q29	D-3
Q30	D-2
Q31	D-3
Q32	D-3
Q33	D-3
Q34	E-4
Q35	A-6
Q36	B-5
Q37	B-4
Q38	C-5
Q39	C-3
Q40	D-2
Q41	C-2
Q42	C-3
Q43	B-3
Q44	B-3
Q45	C-4
Q46	C-5
Q47	B-1
Q48	C-2
Q49	J-4
Q50	J-2
RV1	H-1
RV2	F-3
RV4	G-1
RV5	H-4
RV6	I-5
RV7	A-1
RV8	F-1
RV9	C-1
RV10	D-1
RV11	D-1
RV12	C-4
RV13	B-5
RV14	B-1
RV15	B-2
RV16	J-1
RV17	F-1
S1	A-1
S2	I-2
TP1	H-4

EN-95 BOARD

S/N J ; 30041 through 30590
UC; 10061 through 10840
EK; 40051 through 40690

EN-95(1-638-048-12)

CN1	F-5
D1	E-2
D3	J-1
DL1	E-2
FL1	F-3
IC1	H-3
IC2	A-2
IC4	F-5
IC5	A-5
IC6	A-4
IC8	C-3
IC9	I-2
IC10	J-3
LV1	H-4
L1	G-6
L2	G-1
L3	G-3
L4	I-4
L6	I-4
L8	D-5
L9	C-1
L10	A-6
L12	L-4
L14	F-2
Q1	G-2
Q2	H-1
Q4	G-3
Q5	H-2
Q7	H-4
Q8	G-5
Q9	I-4
Q10	I-5
Q11	I-5
Q12	J-5
Q13	J-5
Q14	J-5
Q15	B-1
Q16	E-4
Q17	F-3
Q18	F-3
Q19	E-4
Q20	F-3
Q22	F-2
Q24	F-2
Q25	E-2
Q27	D-2
Q28	D-2
Q29	D-3
Q30	D-2
Q31	D-3
Q32	D-3
Q33	D-3
Q34	E-4
Q35	A-6
Q36	B-5
Q37	B-4
Q38	C-5
Q39	C-3
Q40	D-2
Q41	C-2
Q42	C-3
Q43	B-3
Q44	B-3
Q45	C-4
Q46	C-5
Q47	B-1
Q48	C-2
Q49	J-4
Q50	J-2
RV1	H-1
RV2	F-3
RV4	G-1
RV5	H-4
RV6	I-5
RV7	A-1
RV8	F-1
RV9	C-1
RV10	D-1
RV11	D-1
RV12	C-4
RV13	B-5
RV14	B-1
RV15	B-2
RV16	J-1
RV17	F-1
S1	A-1
S2	I-2
TP1	H-4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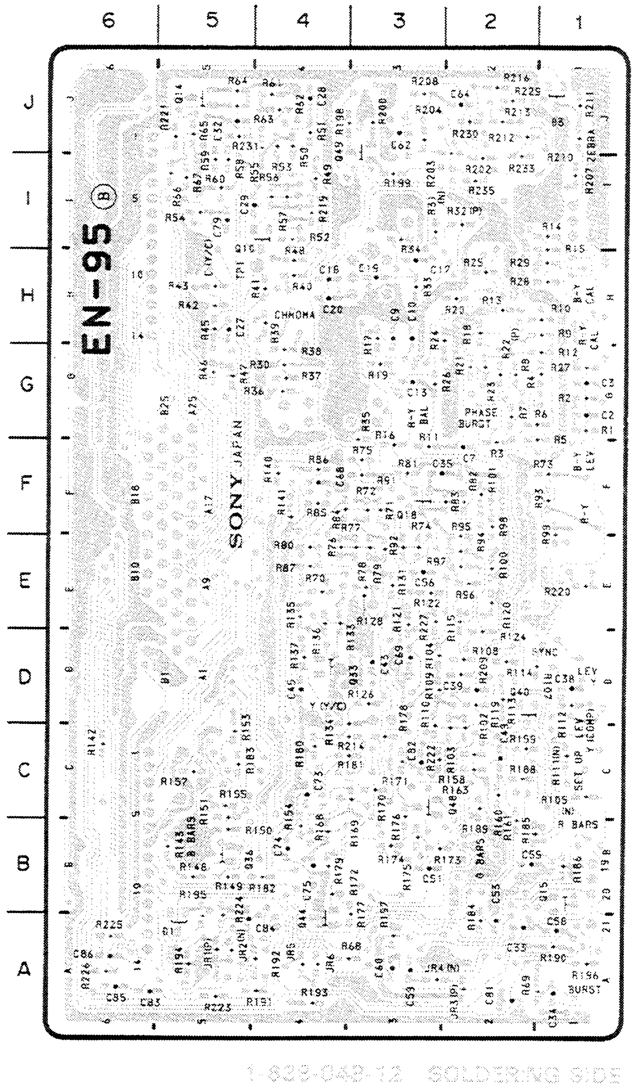
A
Ⓐ EN-95
SONY
JAPAN
1-638-048-12
ZEBRA
CHROMA
BURST PHASE
R-Y BAL
B-Y LEV
SYNC LEV (COMP)
SET UP
8 BARS
BURST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A
EN-95 Ⓑ
SONY JAPAN
CHROMA
PHASE BURST
1-638-048-12 SOLDERING SIDE

EN-95(1-638-048-12)

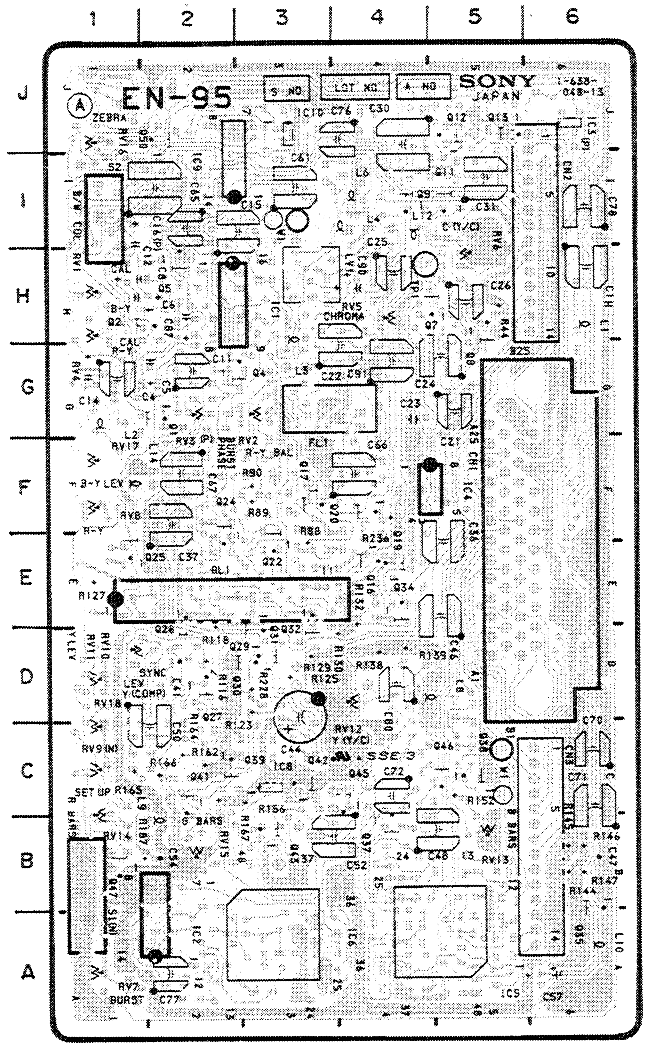
CN1	F-5
D1	E-2
D3	J-1
DL1	E-2
FL1	F-3
IC1	H-3
IC2	A-2
IC4	F-5
IC5	A-5
IC6	A-4
IC8	C-3
IC9	I-2
IC10	J-3
LV1	H-4
L1	G-6
L2	G-1
L3	G-3
L4	I-4
L6	I-4
L8	D-5
L9	C-1
L10	A-6
L12	L-4
L14	F-2
Q1	G-2
Q2	H-1
Q4	G-3
Q5	H-2
Q7	H-4
Q8	G-5
Q9	I-4
Q10	I-5
Q11	I-5
Q12	J-5
Q13	J-5
Q14	J-5
Q15	B-1
Q16	E-4
Q17	F-3
Q18	F-3
Q19	E-4
Q20	F-3
Q22	F-2
Q24	F-2
Q25	E-2
Q27	D-2
Q28	D-2
Q29	D-3
Q30	D-2
Q31	D-3
Q32	D-3
Q33	D-3
Q34	E-4
Q35	A-6
Q36	B-5
Q37	B-4
Q38	C-5
Q39	C-3
Q40	D-2
Q41	C-2
Q42	C-3
Q43	B-3
Q44	B-3
Q45	C-4
Q46	C-5
Q47	B-1
Q48	C-2
Q49	J-4
Q50	J-2
RV1	H-1
RV2	F-3
RV4	G-1
RV5	H-4
RV6	I-5
RV7	A-1
RV8	F-1
RV9	C-1
RV10	D-1
RV11	D-1
RV12	C-4
RV13	B-5
RV14	B-1
RV15	B-2
RV16	J-1
RV17	F-1
S1	A-1
S2	I-2
TP1	H-4

EN-95 BOARD

S/N J ; 30591 through 31370
UC; 10841 through 12200
EK; 40691 through 42390

EN-95(1-638-048-13)

CN1	F-5	Q20	F-3
CN2	I-6	Q22	E-3
CN3	C-6	Q24	F-2
		Q25	E-2
D1	A-5	Q27	D-2
D3	J-1	Q28	D-2
		Q29	D-3
DL1	E-2	Q30	D-2
		Q31	D-3
FL1	F-3	Q32	D-3
		Q33	D-3
IC1	H-3	Q34	E-4
IC2	A-2	Q35	A-6
IC3	J-6	Q36	B-5
IC4	F-5	Q37	B-4
IC5	A-5	Q38	C-5
IC6	A-4	Q39	C-3
IC8	C-3	Q40	D-2
IC9	I-2	Q41	C-2
IC10	J-3	Q42	C-3
		Q43	B-3
LV1	H-4	Q44	A-4
		Q45	C-4
L1	H-6	Q46	C-5
L2	G-1	Q47	B-1
L3	G-3	Q48	C-2
L4	I-4	Q49	J-4
L6	I-4	Q50	J-2
L8	D-5		
L9	C-1	RV1	H-1
L10	A-6	RV2	F-3
L12	L-4	RV3	F-2
L14	F-2	RV4	G-1
		RV5	H-4
Q1	G-2	RV6	I-5
Q2	H-1	RV7	A-1
Q4	G-3	RV8	F-1
Q5	H-2	RV9	C-1
Q7	H-4	RV10	D-1
Q8	G-5	RV11	D-1
Q9	I-4	RV12	C-4
Q10	I-5	RV13	B-5
Q11	I-5	RV14	B-1
Q12	J-5	RV15	B-2
Q13	J-5	RV16	J-1
Q14	J-5	RV17	F-1
Q15	B-1	RV18	D-1
Q16	E-4		
Q17	F-3	S1	A-1
Q18	F-3	S2	I-1
Q19	E-4		
		TP1	H-4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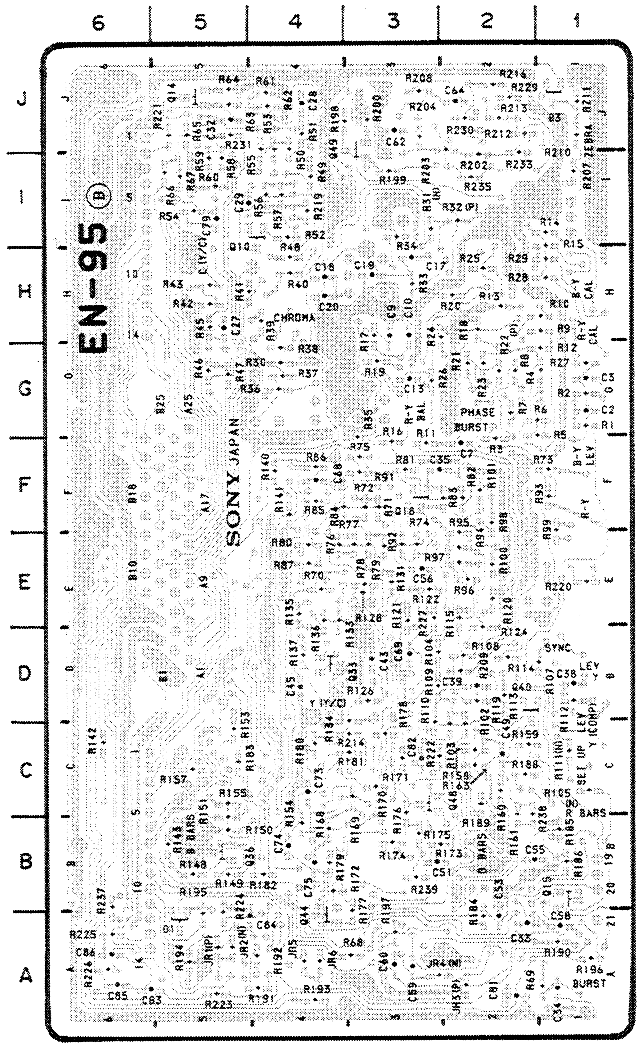
Ⓐ EN-95
SONY JAPAN
1-638-048-13
ZEBRA
CHROMA
CAL
R-Y BAL
B-Y LEV
SYNC
Y(Y/C)
SET UP
BURST
8 BARS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B
A
EN-95 Ⓑ
SONY JAPAN
ZEBRA
CHROMA
PHASE
BURST
SYNC
CAL
8 BARS

1-638-048-13 SOLDERING SIDE

EN-95(1-638-048-13)

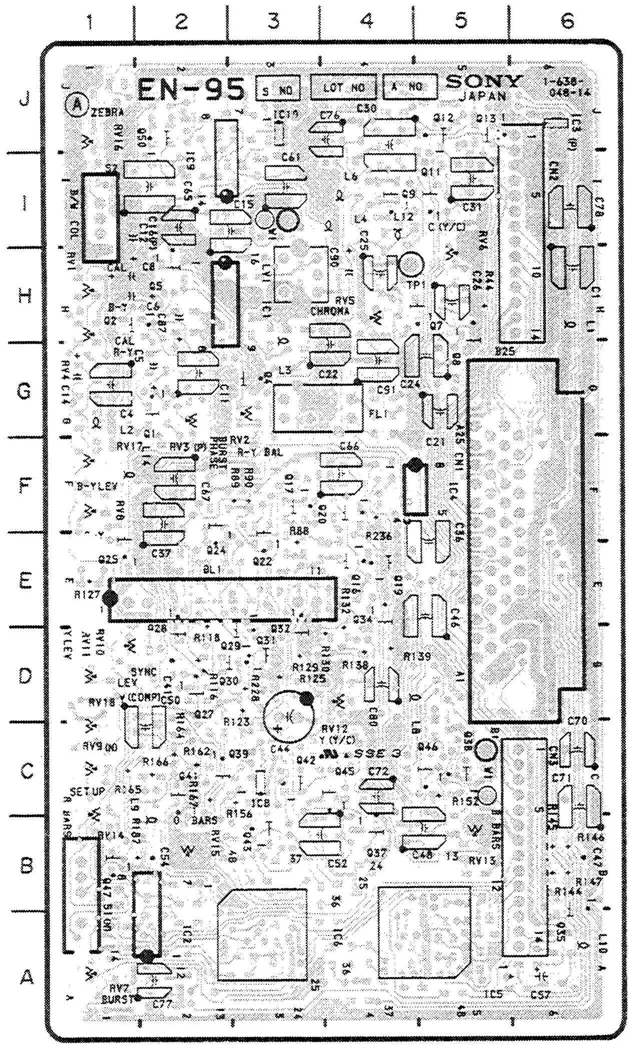
CN1	F-5	Q20	F-3
CN2	I-6	Q22	E-3
CN3	C-6	Q24	F-2
		Q25	E-2
D1	A-5	Q27	D-2
D3	J-1	Q28	D-2
		Q29	D-3
DL1	E-2	Q30	D-2
		Q31	D-3
FL1	F-3	Q32	D-3
		Q33	D-3
IC1	H-3	Q34	E-4
IC2	A-2	Q35	A-6
IC3	J-6	Q36	B-5
IC4	F-5	Q37	B-4
IC5	A-5	Q38	C-5
IC6	A-4	Q39	C-3
IC8	C-3	Q40	D-2
IC9	I-2	Q41	C-2
IC10	J-3	Q42	C-3
		Q43	B-3
LV1	H-4	Q44	A-4
		Q45	C-4
L1	H-6	Q46	C-5
L2	G-1	Q47	B-1
L3	G-3	Q48	C-2
L4	I-4	Q49	J-4
L6	I-4	Q50	J-2
L8	D-5		
L9	C-1	RV1	H-1
L10	A-6	RV2	F-3
L12	L-4	RV3	F-2
L14	F-2	RV4	G-1
		RV5	H-4
Q1	G-2	RV6	I-5
Q2	H-1	RV7	A-1
Q4	G-3	RV8	F-1
Q5	H-2	RV9	C-1
Q7	H-4	RV10	D-1
Q8	G-5	RV11	D-1
Q9	I-4	RV12	C-4
Q10	I-5	RV13	B-5
Q11	I-5	RV14	B-1
Q12	J-5	RV15	B-2
Q13	J-5	RV16	J-1
Q14	J-5	RV17	F-1
Q15	B-1	RV18	D-1
Q16	E-4		
Q17	F-3	S1	A-1
Q18	F-3	S2	I-1
Q19	E-4		
		TP1	H-4

EN-95 BOARD

S/N J ; 31371 and higher
UC; 12201 and higher
EK; 42391 and higher

EN-95(1-638-048-14)

CN1	F-5
CN2	I-6
CN3	C-6
D1	A-5
D3	J-1
DL1	E-2
FL1	F-3
IC1	H-3
IC2	A-2
IC3	J-6
IC4	F-5
IC5	A-5
IC6	A-4
IC8	C-3
IC9	I-2
IC10	J-3
LV1	H-4
L1	H-6
L2	G-1
L3	G-3
L4	I-4
L6	I-4
L8	D-5
L9	C-1
L10	A-6
L12	L-4
L14	F-2
Q1	G-2
Q2	H-1
Q4	G-3
Q5	H-2
Q7	H-4
Q8	G-5
Q9	I-4
Q10	I-5
Q11	I-5
Q12	J-5
Q13	J-5
Q14	J-5
Q15	B-1
Q16	E-4
Q17	F-3
Q18	F-3
Q19	E-4
Q20	F-3
Q22	E-3
Q24	F-2
Q25	E-2
Q27	D-2
Q28	D-2
Q29	D-3
Q30	D-2
Q31	D-3
Q32	D-3
Q33	D-3
Q34	E-4
Q35	A-6
Q36	B-5
Q37	B-4
Q38	C-5
Q39	C-3
Q40	D-2
Q41	C-2
Q42	C-3
Q43	B-3
Q44	A-4
Q45	C-4
Q46	C-5
Q47	B-1
Q48	C-2
Q49	J-4
Q50	J-2
RV1	H-1
RV2	F-3
RV3	F-2
RV4	G-1
RV5	H-4
RV6	I-5
RV7	A-1
RV8	F-1
RV9	C-1
RV10	D-1
RV11	D-1
RV12	C-4
RV13	B-5
RV14	B-1
RV15	B-2
RV16	J-1
RV17	F-1
RV18	D-1
S1	A-1
S2	I-1
TP1	H-4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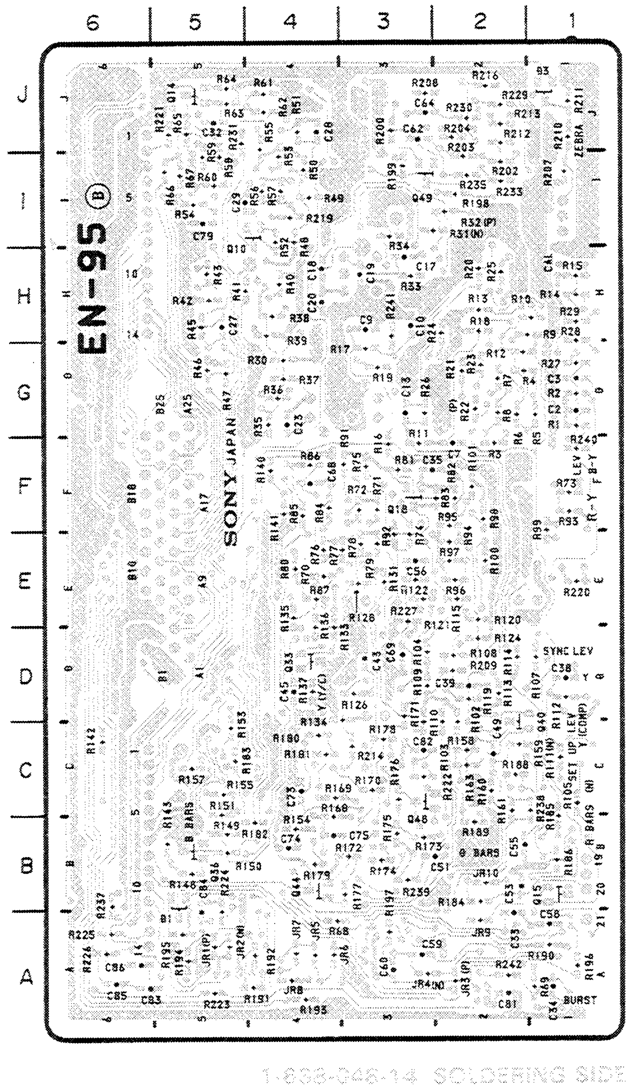
EN-95
SONY
JAPAN
1-638-048-14
ZEBRA
CHROMA
R-Y BAL
SYNC LEV
SET UP
B BARS
BURST


6
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F
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C
B
A
EN-95
SONY JAPAN
ZEBRA
SYNC LEV
SET UP
B BARS
BURST
1-638-048-14 SOLDERING SIDE

EN-95(1-638-048-14)

CN1	F-5
CN2	I-6
CN3	C-6
D1	A-5
D3	J-1
DL1	E-2
FL1	F-3
IC1	H-3
IC2	A-2
IC3	J-6
IC4	F-5
IC5	A-5
IC6	A-4
IC8	C-3
IC9	I-2
IC10	J-3
LV1	H-4
L1	H-6
L2	G-1
L3	G-3
L4	I-4
L6	I-4
L8	D-5
L9	C-1
L10	A-6
L12	L-4
L14	F-2
Q1	G-2
Q2	H-1
Q4	G-3
Q5	H-2
Q7	H-4
Q8	G-5
Q9	I-4
Q10	I-5
Q11	I-5
Q12	J-5
Q13	J-5
Q14	J-5
Q15	B-1
Q16	E-4
Q17	F-3
Q18	F-3
Q19	E-4
Q20	F-3
Q22	E-3
Q24	F-2
Q25	E-2
Q27	D-2
Q28	D-2
Q29	D-3
Q30	D-2
Q31	D-3
Q32	D-3
Q33	D-3
Q34	E-4
Q35	A-6
Q36	B-5
Q37	B-4
Q38	C-5
Q39	C-3
Q40	D-2
Q41	C-2
Q42	C-3
Q43	B-3
Q44	A-4
Q45	C-4
Q46	C-5
Q47	B-1
Q48	C-2
Q49	J-4
Q50	J-2
RV1	H-1
RV2	F-3
RV3	F-2
RV4	G-1
RV5	H-4
RV6	I-5
RV7	A-1
RV8	F-1
RV9	C-1
RV10	D-1
RV11	D-1
RV12	C-4
RV13	B-5
RV14	B-1
RV15	B-2
RV16	J-1
RV17	F-1
RV18	D-1
S1	A-1
S2	I-1
TP1	H-4

EN-95 BOARD

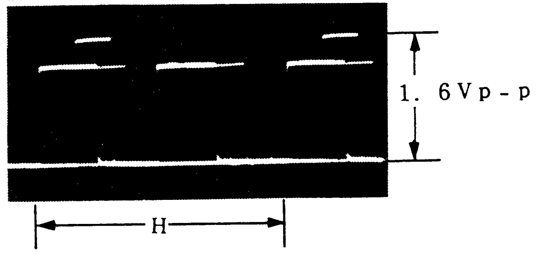
注意：

1. ＤＣ電圧はデジタル電圧計による値。
2. 波形写真、及びＤＣ電圧は下記条件での測定。
   - ・本機にCA-537を接続する。
   - ・OUTPUT :BARS
   - ・GAIN :0dB
   - ・WHITE BAL :PRE
   - ・SHUTTER :OFF
   - ・ZEBRA MARKER :OFF OFF
   - ・PHASE :0°
3. ＊はＵＣモデルの波形です。Ｊモデルのものは、セットアップレベルがゼロになっています。

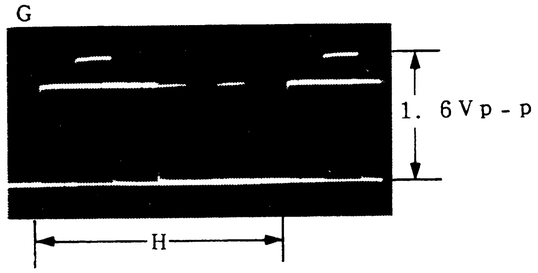
NOTE：

1. All voltage are DC.measured with a digital voltmeter.
2. All waveforms are taken and DC voltage is measured in condition below.
   - • Connect the camera adapter CA-537 to the camera.
   - •OUTPUT :BARS
   - •GAIN :0dB
   - •WHITE BAL :PRE
   - •SHUTTER :OFF
   - •ZEBRA MARKER :OFF OFF
   - •PHASE :0°
3. The waveform marked with * is for UCmodel. For J model, the setup level is set to "0" at factory.

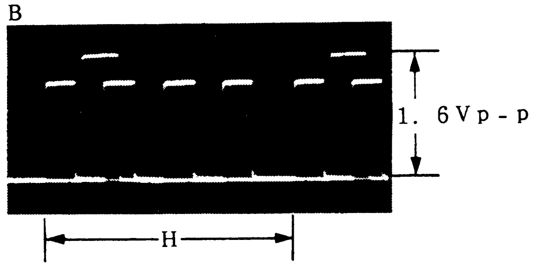
Q39-2pin
R



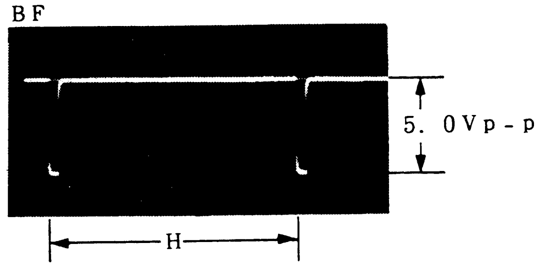
Q43-2pin
G



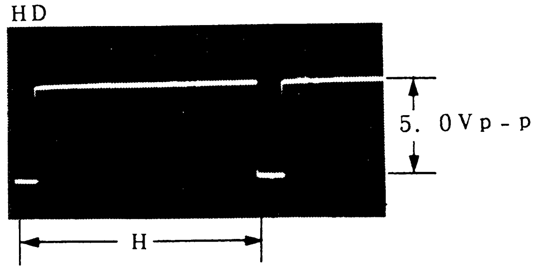
Q35-4pin
B



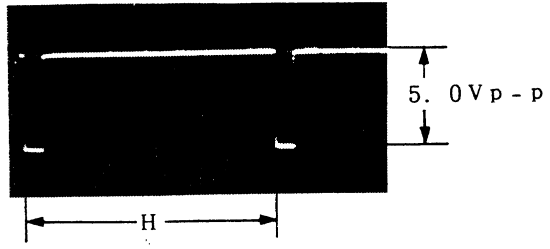
CN3-8pin
BF



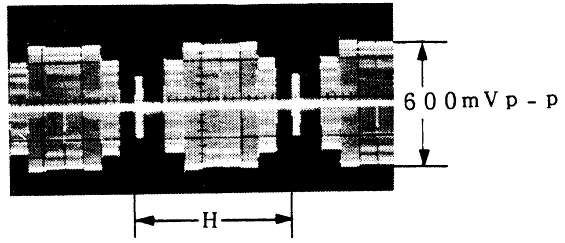
CN3-13pin
HD



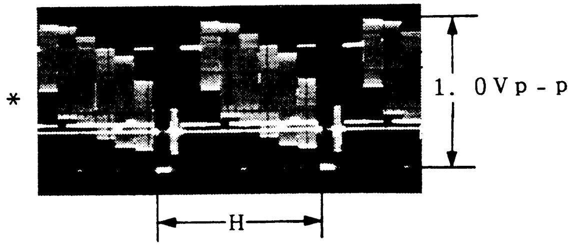
CN3-9pin
SYNC



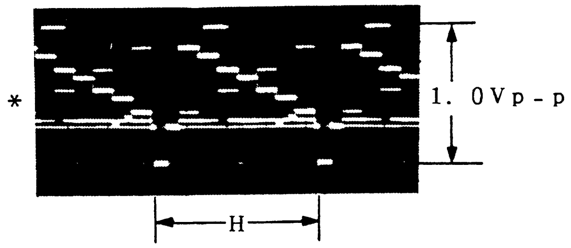
CN1-A11pin
CHROMA



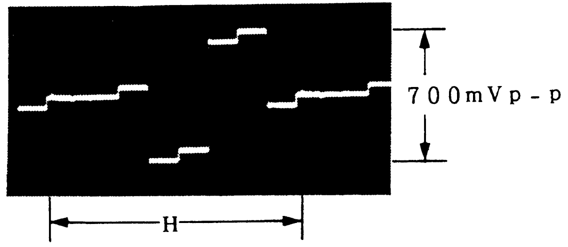
CN1-A14pin
VBS



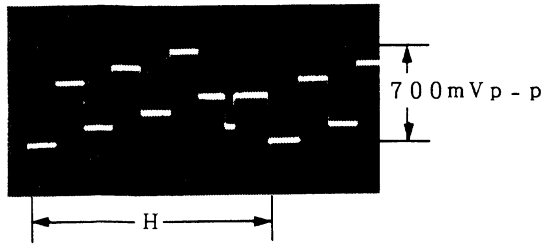
CN1-A9pin
Y



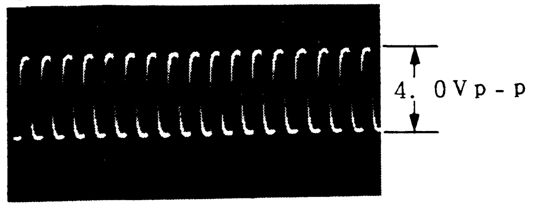
IC1-1pin
(R-Y)



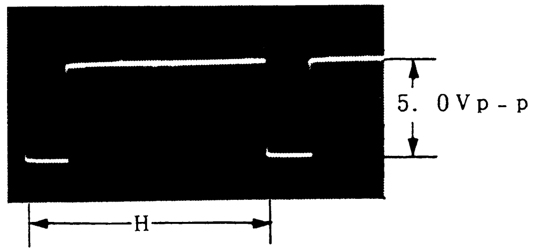
IC1-4pin
(B-Y)



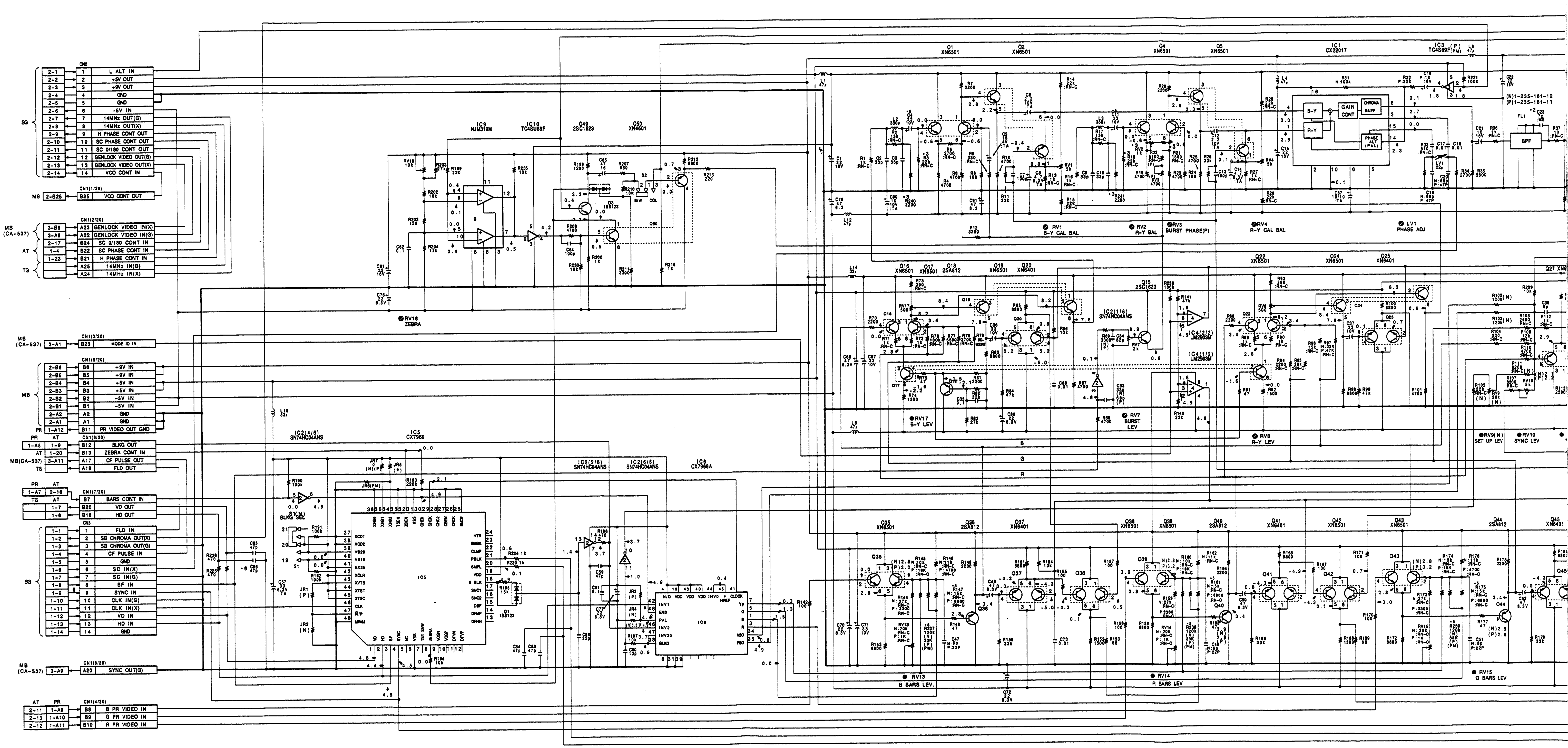
CN3-6pin
SC



CN1-B12pin
BLKG



EN-95 BOARD


IC1 CX22017
IC3 (P) TC4S69F(PM)
IC9 NJM319M
IC10 TC4SU69F
IC2(4/6) SN74HC04ANS
IC5 CX7969
IC2(2/6) SN74HC04ANS
IC2(6/6) SN74HC04ANS
IC6 CX7968A
IC2(1/6) SN74HC04ANS
IC4(2/2) LM2903M
IC4(1/2) LM2903M
Q1 XN6501
Q2 XN6501
Q4 XN6501
Q5 XN6501
Q49 2SC1623
Q50 XN4601
Q15 2SC1623
Q16 XN6501
Q17 XN6501
Q18 2SA812
Q19 XN6501
Q20 XN6401
Q22 XN6501
Q24 XN6501
Q25 XN6401
Q35 XN6501
Q36 2SA812
Q37 XN6401
Q38 XN6501
Q39 XN6501
Q40 2SA812
Q41 XN6401
Q42 XN6501
Q43 XN6501
Q44 2SA812
Q45 XN6401
RV1 B-Y CAL BAL
RV2 R-Y BAL
RV3 BURST PHASE(P)
RV4 R-Y CAL BAL
LV1 PHASE ADJ
RV16 ZEBRA
RV17 B-Y LEV
RV7 BURST LEV
RV8 R-Y LEV
RV9(N) SET UP LEV
RV10 SYNC LEV
RV13 B BARS LEV.
RV14 R BARS LEV
RV15 G BARS LEV
B-Y
R-Y
GAIN CONT
CHROMA BUFF
PHASE ALT (PAL)
BPF
(N)1-235-161-12
(P)1-235-181-11
S1(N) BLKG SEL
S2 B/W COL
CN2
2-1 1 L ALT IN
2-2 2 +5V OUT
2-3 3 +9V OUT
2-4 4 GND
2-5 5 GND
2-6 6 -5V IN
2-7 7 14MHz OUT(G)
2-8 8 14MHz OUT(X)
2-9 9 H PHASE CONT OUT
2-10 10 SC PHASE CONT OUT
2-11 11 SC 0/180 CONT OUT
2-12 12 GENLOCK VIDEO OUT(G)
2-13 13 GENLOCK VIDEO OUT(X)
2-14 14 VCO CONT IN
SG
CN1(1/20)
MB 2-B25 B25 VCO CONT OUT
CN1(2/20)
MB (CA-537) 3-B8 A23 GENLOCK VIDEO IN(X)
3-A8 A22 GENLOCK VIDEO IN(G)
2-17 B24 SC 0/180 CONT IN
AT 1-4 B22 SC PHASE CONT IN
1-23 B21 H PHASE CONT IN
TG A25 14MHz IN(G)
A24 14MHz IN(X)
CN1(3/20)
MB (CA-537) 3-A1 B23 MODE ID IN
CN1(5/20)
MB
2-B6 B6 +9V IN
2-B5 B5 +9V IN
2-B4 B4 +5V IN
2-B3 B3 +5V IN
2-B2 B2 -5V IN
2-B1 B1 -5V IN
2-A2 A2 GND
2-A1 A1 GND
PR 1-A12 B11 PR VIDEO OUT GND
CN1(6/20)
PR AT
1-A5 1-9 B12 BLKG OUT
AT 1-20 B13 ZEBRA CONT IN
MB(CA-537) 3-A11 A17 CF PULSE OUT
TG A18 FLD OUT
PR AT
1-A7 2-16
TG AT
CN1(7/20)
B7 BARS CONT IN
1-7 B20 VD OUT
1-6 B18 HD OUT
CN3
1-1 1 FLD IN
1-2 2 SG CHROMA OUT(X)
1-3 3 SG CHROMA OUT(G)
1-4 4 CF PULSE IN
1-5 5 GND
1-6 6 SC IN(X)
1-7 7 SC IN(G)
1-8 8 BF IN
1-9 9 SYNC IN
1-10 10 CLK IN(G)
1-11 11 CLK IN(X)
1-12 12 VD IN
1-13 13 HD IN
1-14 14 GND
CN1(8/20)
MB (CA-537) 3-A9 A20 SYNC OUT(G)
CN1(4/20)
AT PR
2-11 1-A9 B8 B PR VIDEO IN
2-13 1-A10 B9 G PR VIDEO IN
2-12 1-A11 B10 R PR VIDEO IN
C-53
C-54
A
B
C
D
E
F
G
H
I

NOTE

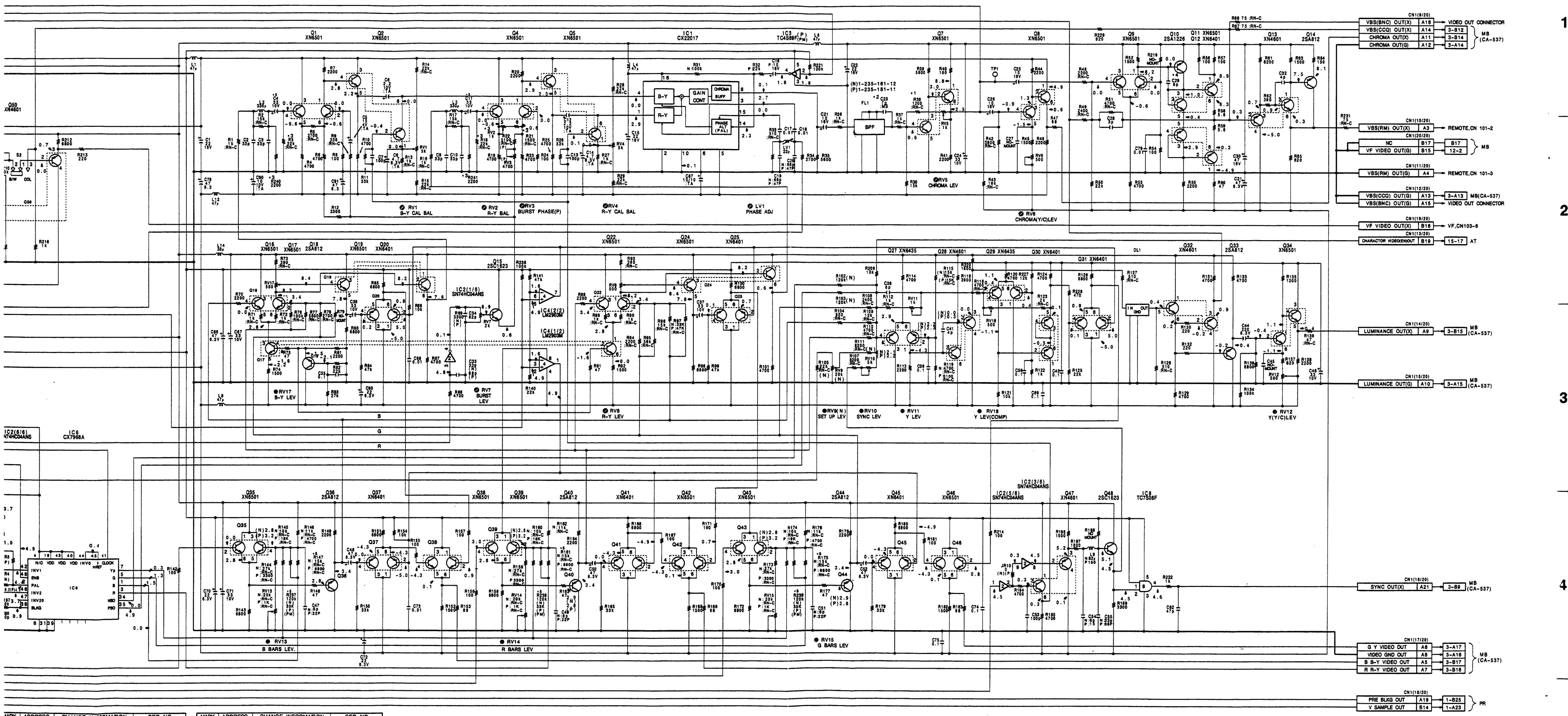
MARK	ADDRESS	CHANGE INFORMATION	SER NO.
•1	I-2	R38 1500 → 1200	10061- (UC) 30041- (J) 40001- (EK)
•2	I-2	C23 6P → 6.8P	10061-12200(UC) 30041-31370(J) 40051-42390(EK)
		C23 6.8P → 7P	12201- (UC) 31371- (J) 42391- (EK)
•3	F-2	R3 2K → 470K R240 2K ADD	10841-12200(UC) 30591-31370(J) 40691-42390(EK)
		R3 470K → 22K R240 2K → 2200	12201- (UC) 31371- (J) 42391- (EK)

MARK	ADDRESS	CHANGE INFORMATION	SER NO.
•3	G-2	R18 2K → 470K R21 1600 → 1500 R241 2K ADD	10841-12200(UC) 30591-31370(J) 40691-42390(EK)
		R18 470K → 22K R241 2K → 2200	12201- (UC) 31371- (J) 42391- (EK)
•4	J-2	C29 4P → 6P	11121- (UC) 30751- (J) 41221- (EK)
•5	F-2 G-2	C4 4.7 → 33 C11 35V → 10V	12201- (UC) 31371- (J) 42391- (EK)

MARK	ADDRESS	CHANGE INFORMATION	SER NO.
•5	F-4	R147 13K(N) → 15K(N) 4700(P) → 6800(P)	12201- (UC) 31371- (J) 42391- (EK)
		R237 ADD	
	G-4	R161 13K(N) → 15K(N) 4700(P) → 6800(P)	
		R238 ADD	
	I-4	R175 13K(N) → 15K(N) 4700(P) → 6800(P)	
		R239 ADD	

MARK	ADDRESS	CHANGE INFORMATION	SER NO.
•6	B-4	C86 47p → 68p	12201- (UC) 31371- (J) 42391- (EK)

DXC-537 (J,UC)
DXC-537P(EK)


Q1 XN6501
Q2 XN6501
Q4 XN6501
Q5 XN6501
IC1 CX22017
IC3 (P) TC4S69F(PM)
Q7 XN6501
Q8 XN6501
Q9 XN6501
Q10 2SA1226
Q11 XN6501
Q12 XN6401
Q13 XN4601
Q14 2SA812
Q50 XN4601
B-Y
R-Y
GAIN CONT
CHROMA BUFF
PHASE ALT (PAL)
BPF
FL1
(N)1-235-161-12
(P)1-235-181-11
TP1
RV1 B-Y CAL BAL
RV2 R-Y BAL
RV3 BURST PHASE(P)
RV4 R-Y CAL BAL
LV1 PHASE ADJ
RV5 CHROMA LEV
RV6 CHROMA(Y/C)LEV
CN1(9/20)
VBS(BNC) OUT(X) A16 VIDEO OUT CONNECTOR
VBS(CCQ) OUT(X) A14 3-B12
CHROMA OUT(X) A11 3-B14
CHROMA OUT(G) A12 3-A14
MB (CA-537)
CN1(10/20)
VBS(RM) OUT(X) A3 REMOTE,CN 101-2
CN1(20/20)
NC B17 B17
VF VIDEO OUT(G) B15 12-2
MB
CN1(11/20)
VBS(RM) OUT(G) A4 REMOTE,CN 101-3
CN1(12/20)
VBS(CCQ) OUT(G) A13 3-A13 MB(CA-537)
VBS(BNC) OUT(G) A15 VIDEO OUT CONNECTOR
CN1(19/20)
VF VIDEO OUT(X) B16 VF,CN103-6
CN1(13/20)
CHARACTOR VIDEO(EN)OUT B19 15-17 AT
Q16 XN6501
Q17 XN6501
Q18 2SA812
Q19 XN6501
Q20 XN6401
Q15 2SC1623
IC2(1/6) SN74HC04ANS
IC4(2/2) LM2903M
IC4(1/2) LM2903M
Q22 XN6501
Q24 XN6501
Q25 XN6401
Q27 XN6435
Q28 XN4601
Q29 XN6435
Q30 XN6401
Q31 XN6401
DL1
Q32 XN4601
Q33 2SA812
Q34 XN6501
IN OUT GND
RV17 B-Y LEV
RV7 BURST LEV
RV8 R-Y LEV
RV9(N) SET UP LEV
RV10 SYNC LEV
RV11 Y LEV
RV18 Y LEV(COMP)
RV12 Y(Y/C)LEV
CN1(14/20)
LUMINANCE OUT(X) A9 3-B15 MB (CA-537)
CN1(15/20)
LUMINANCE OUT(G) A10 3-A15 MB (CA-537)
B
G
R
IC2(6/6) SN74HC04ANS
IC6 CX7968A
N/G VDD VDD VDD INVG CLOCK HREF
INV1 ENB PAL INV2 INV20 BLKG
Y0 G B R NSO PSO
Q35 XN6501
Q36 2SA812
Q37 XN6401
Q38 XN6501
Q39 XN6501
Q40 2SA812
Q41 XN6401
Q42 XN6501
Q43 XN6501
Q44 2SA812
Q45 XN6401
Q46 XN6501
IC2(3/6) SN74HC04ANS
IC2(5/6) SN74HC04ANS
Q47 XN4601
Q48 2SC1623
IC8 TC7S08F
RV13 B BARS LEV.
RV14 R BARS LEV
RV15 G BARS LEV
CN1(16/20)
SYNC OUT(X) A21 3-B9 MB (CA-537)
CN1(17/20)
G Y VIDEO OUT A6 3-A17
VIDEO GND OUT A8 3-A16
B B-Y VIDEO OUT A5 3-B17
R R-Y VIDEO OUT A7 3-B16
MB (CA-537)
CN1(18/20)
PRE BLKG OUT A19 1-B25
V SAMPLE OUT B14 1-A23
PR
1
2
3
4
5
C-54
C-55
E
F
G
H
I
J
K
L

MARK	ADDRESS	CHANGE INFORMATION	SER NO.
•5	F-4	R147 13K(N) → 15K(N) 4700(P) → 6800(P)	12201- (UC) 31371- (J) 42391- (EK)
		R237 ADD	
	G-4	R161 13K(N) → 15K(N) 4700(P) → 6800(P)	
		R238 ADD	
	I-4	R175 13K(N) → 15K(N) 4700(P) → 6800(P)	
		R239 ADD	

MARK	ADDRESS	CHANGE INFORMATION	SER NO.
•6	B-4	C86 47p → 68p	12201- (UC) 31371- (J) 42391- (EK)

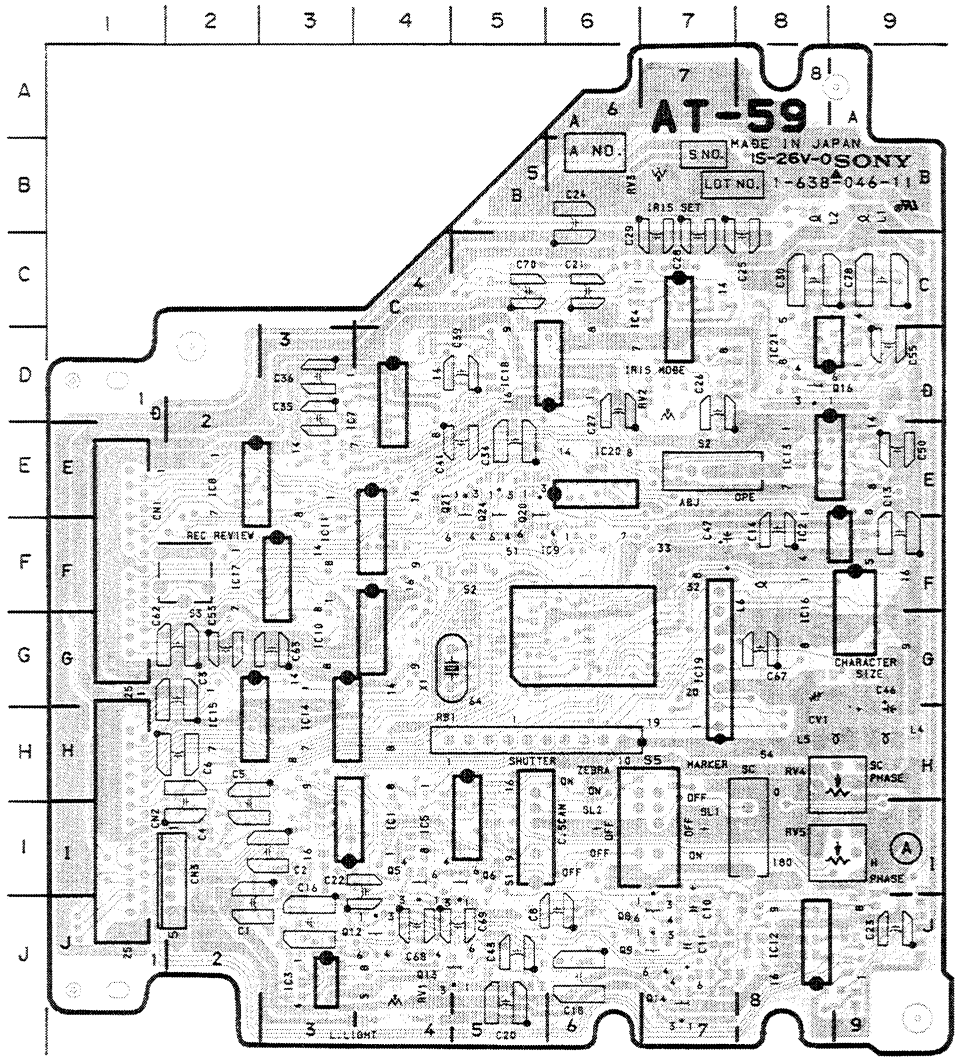
EN-95 BOARD
DXC-537(J,UC)
DXC-537P(EK)
DXC-537M(J)

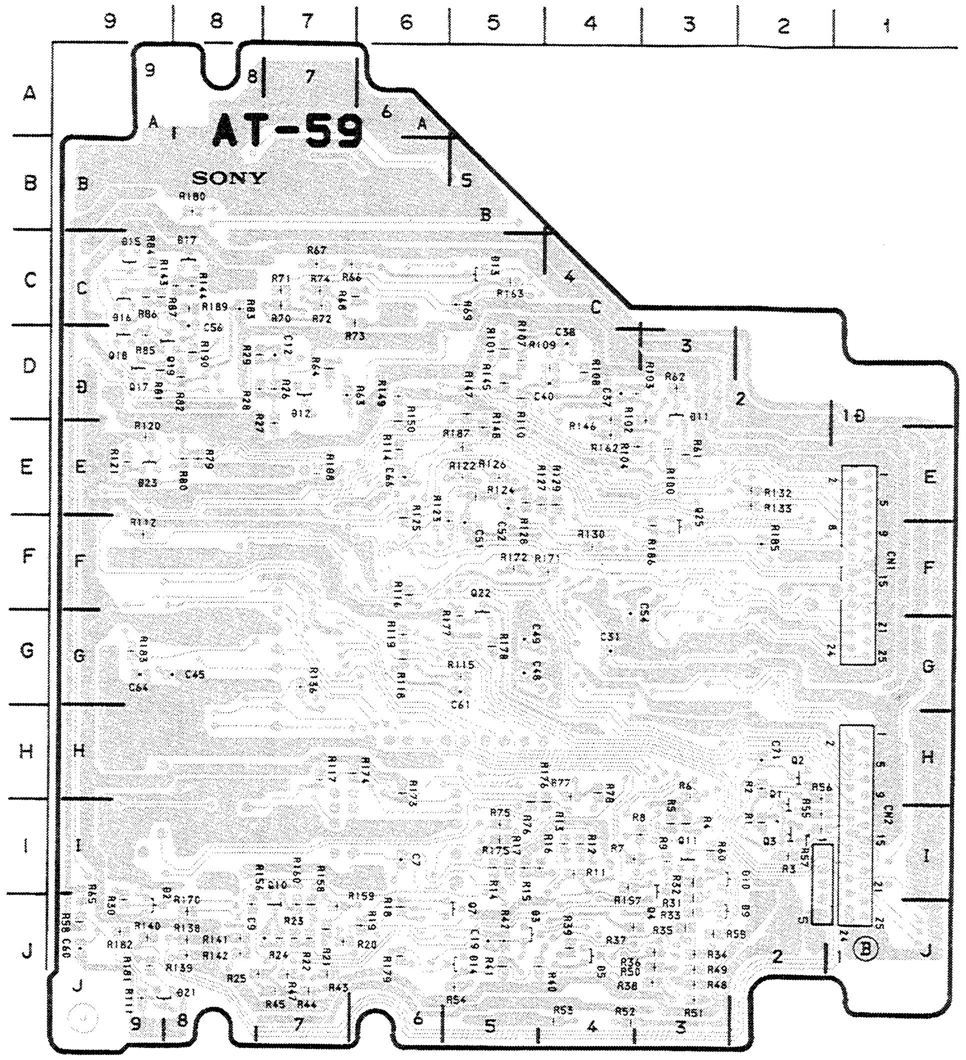
AT-59 BOARD

S/N J ; 30001 through 30280
UC; 10001 through 10370
EK; 40001 through 40440

AT-59(1-638-046-11)

CN1	E-1	Q1	H-2
CN2	I-1	Q2	H-2
CN3	I-2	Q3	I-2
		Q4	J-3
CV1	H-8	Q5	I-4
		Q6	I-5
D2	J-9	Q7	J-5
D3	J-5	Q8	J-6
D5	J-4	Q9	J-6
D9	J-2	Q10	I-7
D10	I-2	Q11	I-3
D11	D-3	Q12	J-3
D12	D-7	Q13	J-4
D13	C-5	Q14	J-7
D14	J-5	Q16	D-9
D15	C-9	Q17	D-9
D16	C-9	Q18	D-9
D17	C-8	Q19	D-9
D21	J-8	Q20	E-5
D23	E-9	Q21	E-4
		Q22	F-5
IC1	I-4	Q24	E-5
IC2	F-8	Q25	E-3
IC3	J-3		
IC4	C-6	RB1	H-4
IC5	I-4		
IC7	D-4	RV1	J-4
IC8	E-2	RV2	D-7
IC9	F-6	RV3	B-6
IC10	G-3	RV4	H-8
IC11	F-3	RV5	I-8
IC12	J-8		
IC13	E-8	S1	I-5
IC14	H-3	S2	E-7
IC15	H-2	S3	G-2
IC16	F-8	S4	H-8
IC17	F-2	S5	H-7
IC18	D-5		
IC19	G-7	X1	G-4
IC20	E-6		
IC21	D-8		
L1	B-9		
L2	B-8		
L4	H-9		
L5	H-8		
L6	F-8		


AT-59
MADE IN JAPAN
1S-26V-0 SONY
A NO.
S.NO.
LOT NO.
1-638-046-11
IRIS SET
IRIS MODE
REC REVIEW
ABJ
OPE
CHARACTER SIZE
SHUTTER
ZEBRA
MARKER
SC
SC PHASE
H PHASE
C.SCAN
L.LIGHT
ON
OFF



1-638-046-11 SOLDERING SIDE

AT-59(1-638-046-11)

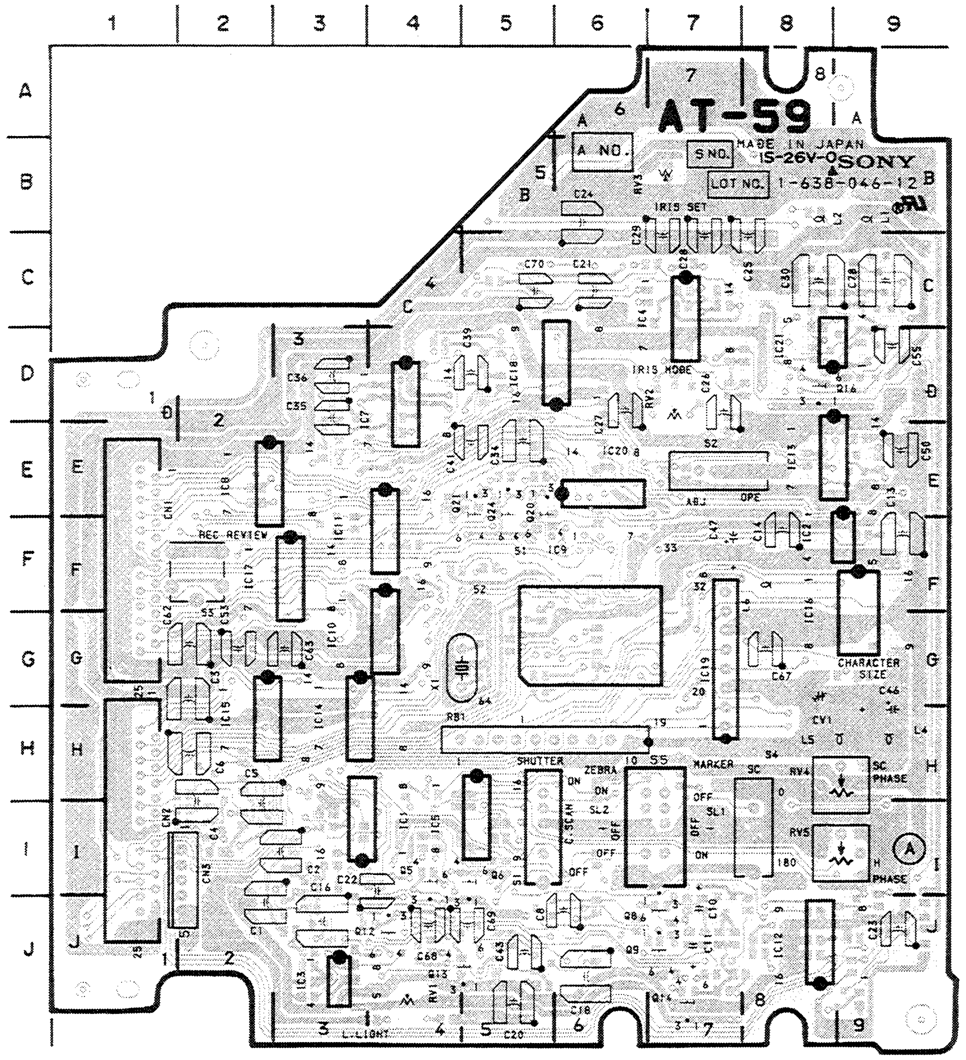
CN1	E-1	Q1	H-2
CN2	I-1	Q2	H-2
CN3	I-2	Q3	I-2
		Q4	J-3
CV1	H-8	Q5	I-4
		Q6	I-5
D2	J-9	Q7	J-5
D3	J-5	Q8	J-6
D5	J-4	Q9	J-6
D9	J-2	Q10	I-7
D10	I-2	Q11	I-3
D11	D-3	Q12	J-3
D12	D-7	Q13	J-4
D13	C-5	Q14	J-7
D14	J-5	Q16	D-9
D15	C-9	Q17	D-9
D16	C-9	Q18	D-9
D17	C-8	Q19	D-9
D21	J-8	Q20	E-5
D23	E-9	Q21	E-4
		Q22	F-5
IC1	I-4	Q24	E-5
IC2	F-8	Q25	E-3
IC3	J-3		
IC4	C-6	RB1	H-4
IC5	I-4		
IC7	D-4	RV1	J-4
IC8	E-2	RV2	D-7
IC9	F-6	RV3	B-6
IC10	G-3	RV4	H-8
IC11	F-3	RV5	I-8
IC12	J-8		
IC13	E-8	S1	I-5
IC14	H-3	S2	E-7
IC15	H-2	S3	G-2
IC16	F-8	S4	H-8
IC17	F-2	S5	H-7
IC18	D-5		
IC19	G-7	X1	G-4
IC20	E-6		
IC21	D-8		
L1	B-9		
L2	B-8		
L4	H-9		
L5	H-8		
L6	F-8		

AT-59 BOARD

S/N J ; 30281 through 30750
UC; 10371 through 11120
EK; 40441 through 41220

AT-59(1-638-046-12)

CN1	E-1	Q1	H-2
CN2	I-1	Q2	H-2
CN3	I-2	Q3	I-2
		Q4	J-3
CV1	H-8	Q5	I-4
		Q6	I-5
D2	J-9	Q7	J-5
D3	J-5	Q8	J-6
D5	J-4	Q9	J-6
D9	J-2	Q10	I-7
D10	I-2	Q11	I-3
D11	D-3	Q12	J-3
D12	D-7	Q13	J-4
D13	C-5	Q14	J-7
D14	J-5	Q16	D-9
D15	C-9	Q17	D-9
D16	C-9	Q18	D-9
D17	C-8	Q19	D-9
D21	J-8	Q20	E-5
D23	E-9	Q21	E-4
		Q22	F-5
IC1	I-4	Q24	E-5
IC2	F-8	Q25	E-3
IC3	J-3		
IC4	C-6	RB1	H-4
IC5	I-4		
IC7	D-4	RV1	J-4
IC8	E-2	RV2	D-7
IC9	F-6	RV3	B-6
IC10	G-3	RV4	H-8
IC11	F-3	RV5	I-8
IC12	J-8		
IC13	E-8	S1	I-5
IC14	H-3	S2	E-7
IC15	H-2	S3	G-2
IC16	F-8	S4	H-8
IC17	F-2	S5	H-7
IC18	D-5		
IC19	G-7	X1	G-4
IC20	E-6		
IC21	D-8		
L1	B-9		
L2	B-8		
L4	H-9		
L5	H-8		
L6	F-8		


1
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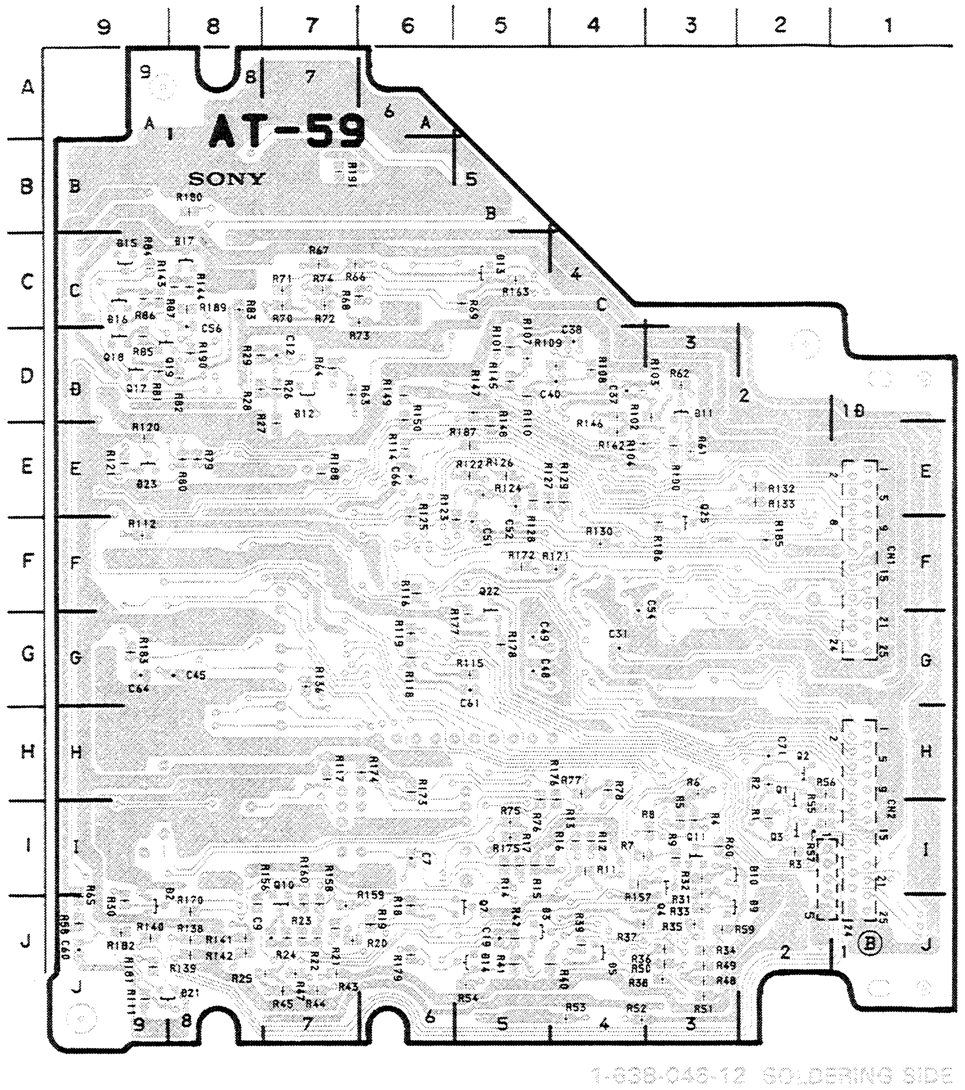
6
7
8
9
A
B
C
D
E
F
G
H
I
J
AT-59
A NO.
S NO.
MADE IN JAPAN
1S-26V-0
SONY
LOT NO.
1-638-046-12
IRIS SET
IRIS MODE
REC REVIEW
ABJ
OPE
CHARACTER SIZE
SHUTTER
ZEBRA
MARKER
SC
SC PHASE
H PHASE
C.SCAN
L.LIGHT
ON
OFF
CN1
CN2
CN3
RB1
CV1
RV4
RV5


9
8
7
6
5
4
3
2
1
A
B
C
D
E
F
G
H
I
J
AT-59
SONY
1-638-046-12 SOLDERING SIDE

AT-59(1-638-046-12)

CN1	E-1	Q1	H-2
CN2	I-1	Q2	H-2
CN3	I-2	Q3	I-2
		Q4	J-3
CV1	H-8	Q5	I-4
		Q6	I-5
D2	J-9	Q7	J-5
D3	J-5	Q8	J-6
D5	J-4	Q9	J-6
D9	J-2	Q10	I-7
D10	I-2	Q11	I-3
D11	D-3	Q12	J-3
D12	D-7	Q13	J-4
D13	C-5	Q14	J-7
D14	J-5	Q16	D-9
D15	C-9	Q17	D-9
D16	C-9	Q18	D-9
D17	C-8	Q19	D-9
D21	J-8	Q20	E-5
D23	E-9	Q21	E-4
		Q22	F-5
IC1	I-4	Q24	E-5
IC2	F-8	Q25	E-3
IC3	J-3		
IC4	C-6	RB1	H-4
IC5	I-4		
IC7	D-4	RV1	J-4
IC8	E-2	RV2	D-7
IC9	F-6	RV3	B-6
IC10	G-3	RV4	H-8
IC11	F-3	RV5	I-8
IC12	J-8		
IC13	E-8	S1	I-5
IC14	H-3	S2	E-7
IC15	H-2	S3	G-2
IC16	F-8	S4	H-8
IC17	F-2	S5	H-7
IC18	D-5		
IC19	G-7	X1	G-4
IC20	E-6		
IC21	D-8		
L1	B-9		
L2	B-8		
L4	H-9		
L5	H-8		
L6	F-8		

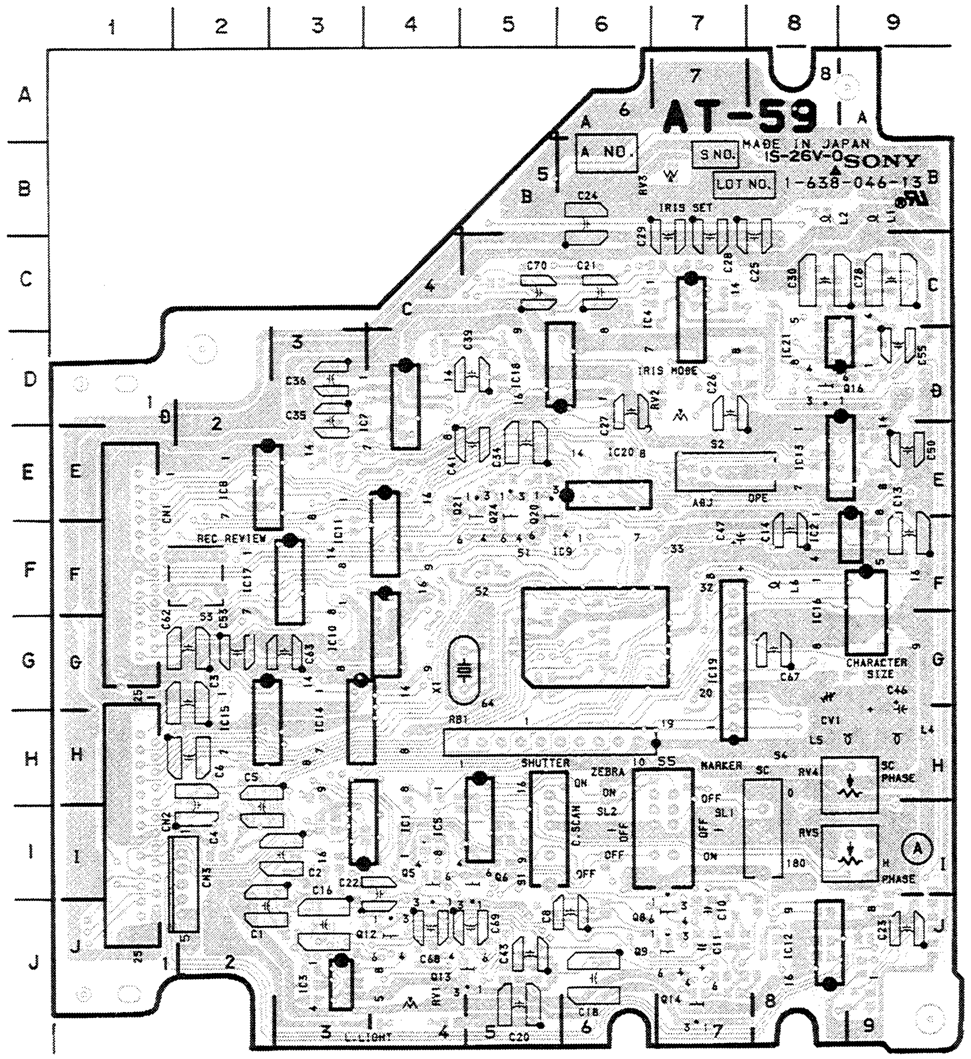
AT-59 BOARD

S/N J ; 30751 and higher
UC; 11121 and higher
EK; 41221 and higher

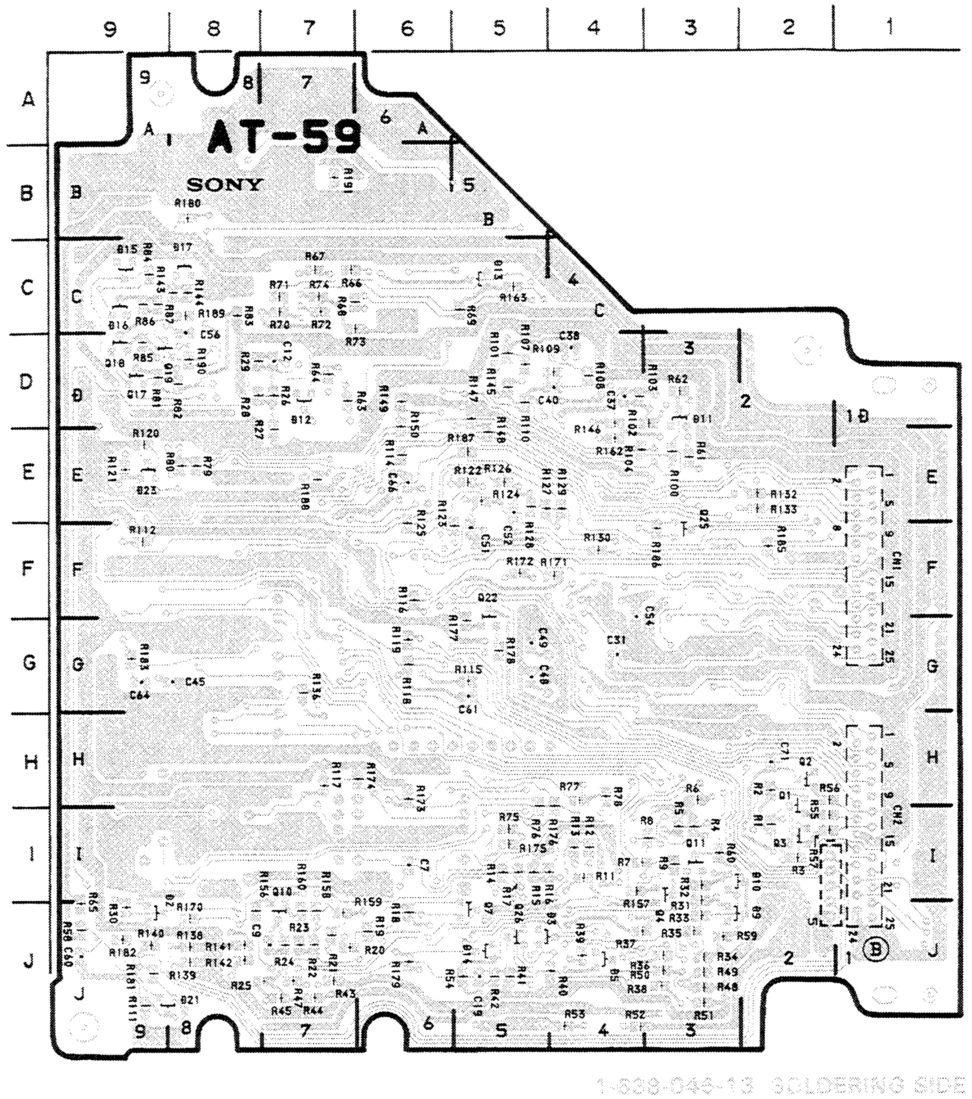
AT-59(1-638-046-13)

CN1	E-1
CN2	I-1
CN3	I-2
CV1	H-8
D2	J-9
D3	J-5
D5	J-4
D9	J-2
D10	I-2
D11	D-3
D12	D-7
D13	C-5
D14	J-5
D15	C-9
D16	C-9
D17	C-8
D21	J-8
D23	E-9
IC1	I-4
IC2	F-8
IC3	J-3
IC4	C-6
IC5	I-4
IC7	D-4
IC8	E-2
IC9	F-6
IC10	G-3
IC11	F-3
IC12	J-8
IC13	E-8
IC14	H-3
IC15	H-2
IC16	F-8
IC17	F-2
IC18	D-5
IC19	G-7
IC20	E-6
IC21	D-8
L1	B-9
L2	B-8
L4	H-9
L5	H-8
L6	F-8

Q1	H-2
Q2	H-2
Q3	I-2
Q4	J-3
Q5	I-4
Q6	I-5
Q7	J-5
Q8	J-6
Q9	J-6
Q10	I-7
Q11	I-3
Q12	J-3
Q13	J-4
Q14	J-7
Q16	D-9
Q17	D-9
Q18	D-9
Q19	D-9
Q20	E-5
Q21	E-4
Q22	F-5
Q24	E-5
Q25	E-3
RB1	H-4
RV1	J-4
RV2	D-7
RV3	B-6
RV4	H-8
RV5	I-8
S1	I-5
S2	E-7
S3	G-2
S4	H-8
S5	H-7
X1	G-4



1 2 3 4 5 6 7 8 9
A B C D E F G H I J
AT-59
MADE IN JAPAN
15-26V-0
SONY
1-638-046-13
A NO.
S.NO.
LOT NO.
IRIS SET
IRIS MODE
REC REVIEW
ABJ
DPE
CHARACTER SIZE
SHUTTER
ZEBRA
MARKER
SC PHASE
H PHASE
C.SCAN
L.LIGHT
ON
OFF



9 8 7 6 5 4 3 2 1
A B C D E F G H I J
AT-59
SONY
1-638-046-13 SOLDERING SIDE

AT-59(1-638-046-13)

CN1	E-1
CN2	I-1
CN3	I-2
CV1	H-8
D2	J-9
D3	J-5
D5	J-4
D9	J-2
D10	I-2
D11	D-3
D12	D-7
D13	C-5
D14	J-5
D15	C-9
D16	C-9
D17	C-8
D21	J-8
D23	E-9
IC1	I-4
IC2	F-8
IC3	J-3
IC4	C-6
IC5	I-4
IC7	D-4
IC8	E-2
IC9	F-6
IC10	G-3
IC11	F-3
IC12	J-8
IC13	E-8
IC14	H-3
IC15	H-2
IC16	F-8
IC17	F-2
IC18	D-5
IC19	G-7
IC20	E-6
IC21	D-8
L1	B-9
L2	B-8
L4	H-9
L5	H-8
L6	F-8

Q1	H-2
Q2	H-2
Q3	I-2
Q4	J-3
Q5	I-4
Q6	I-5
Q7	J-5
Q8	J-6
Q9	J-6
Q10	I-7
Q11	I-3
Q12	J-3
Q13	J-4
Q14	J-7
Q16	D-9
Q17	D-9
Q18	D-9
Q19	D-9
Q20	E-5
Q21	E-4
Q22	F-5
Q24	E-5
Q25	E-3
RB1	H-4
RV1	J-4
RV2	D-7
RV3	B-6
RV4	H-8
RV5	I-8
S1	I-5
S2	E-7
S3	G-2
S4	H-8
S5	H-7
X1	G-4

AT-59 BOARD

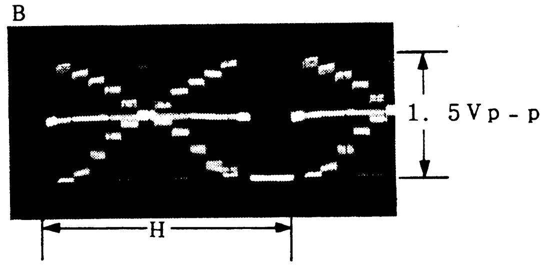
注意：

1. ＤＣ電圧はデジタル電圧計による値。
2. 波形写真、及びＤＣ電圧は下記条件での測定。
   - 本機にCA-537を接続する。
   - グレースケールチャートを撮像し、波形モニターにて、ビデオ出力の白レベルが 100 IREになる様にレンズ絞りをセットする。
   - OUTPUT : CAM
   - GAIN : 0dB
   - WHITE BAL : PRE
   - SHUTTER : OFF
   - ZEBRA MARKER : OFF OFF
   - PHASE : 0°

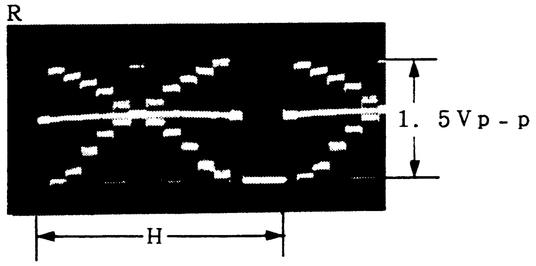
NOTE :

1. All voltage are DC.measured with a digital voltmeter.
2. All waveforms are taken and DC voltage is measured in condition below.
   - Connect the camera adapter CA-537 to the camera.
   - Shoot the grayscale chart. Ajust lens iris so that a white level is 100IRE on the waveform monitor.
   - OUTPUT : CAM
   - GAIN : 0dB
   - WHITE BAL : PRE
   - SHUTTER : OFF
   - ZEBRA MARKER : OFF OFF
   - PHASE : 0°

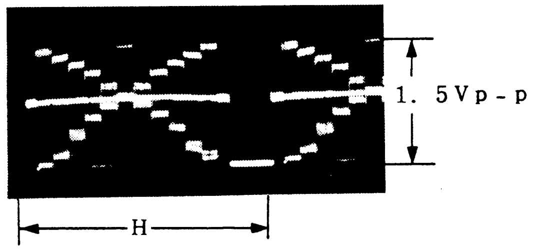
CN2-11pin
B



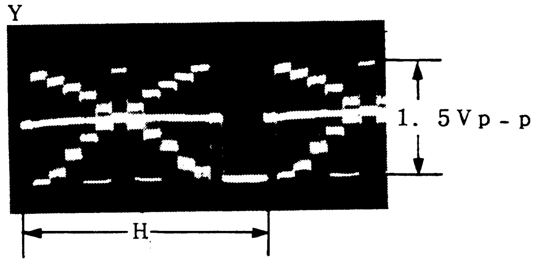
CN2-12pin
R



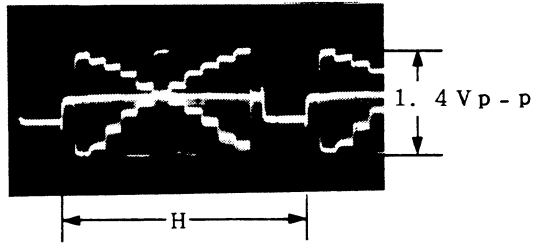
CN2-13pin
G



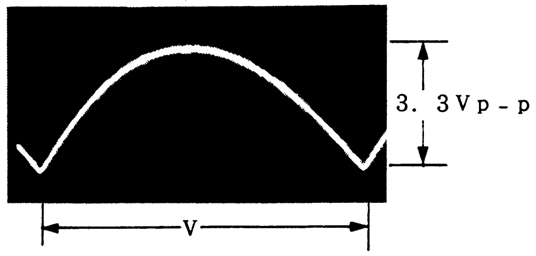
Q11-emitter
Y



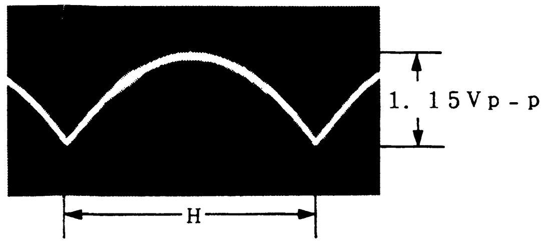
IC4-5pin
NAM Y



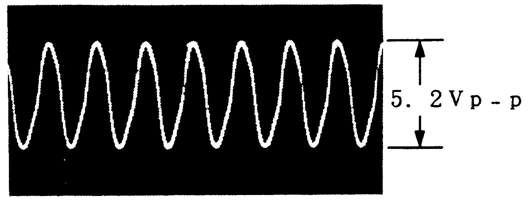
IC7-1pin
V PARA



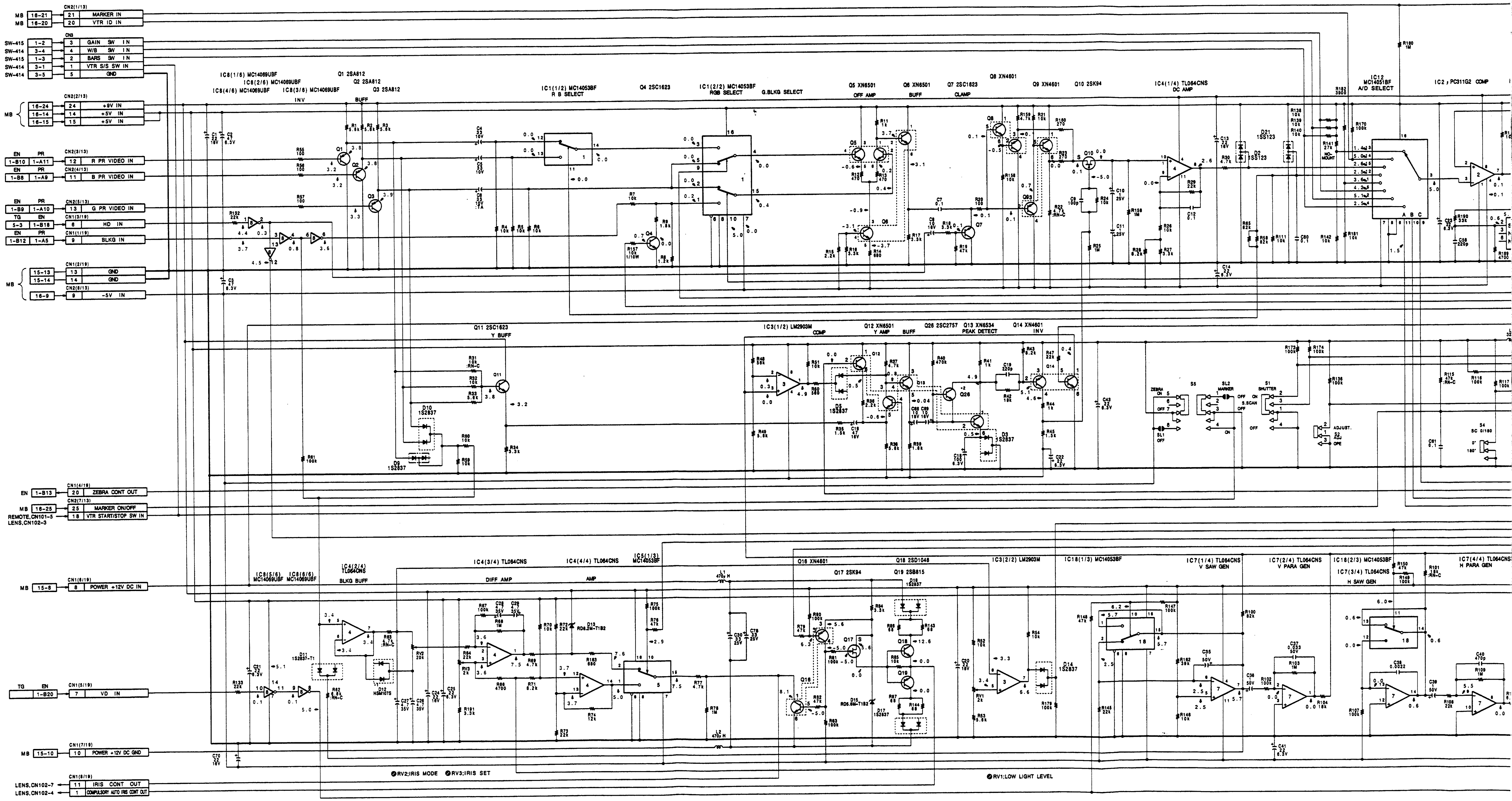
IC7-8pin
H PARA



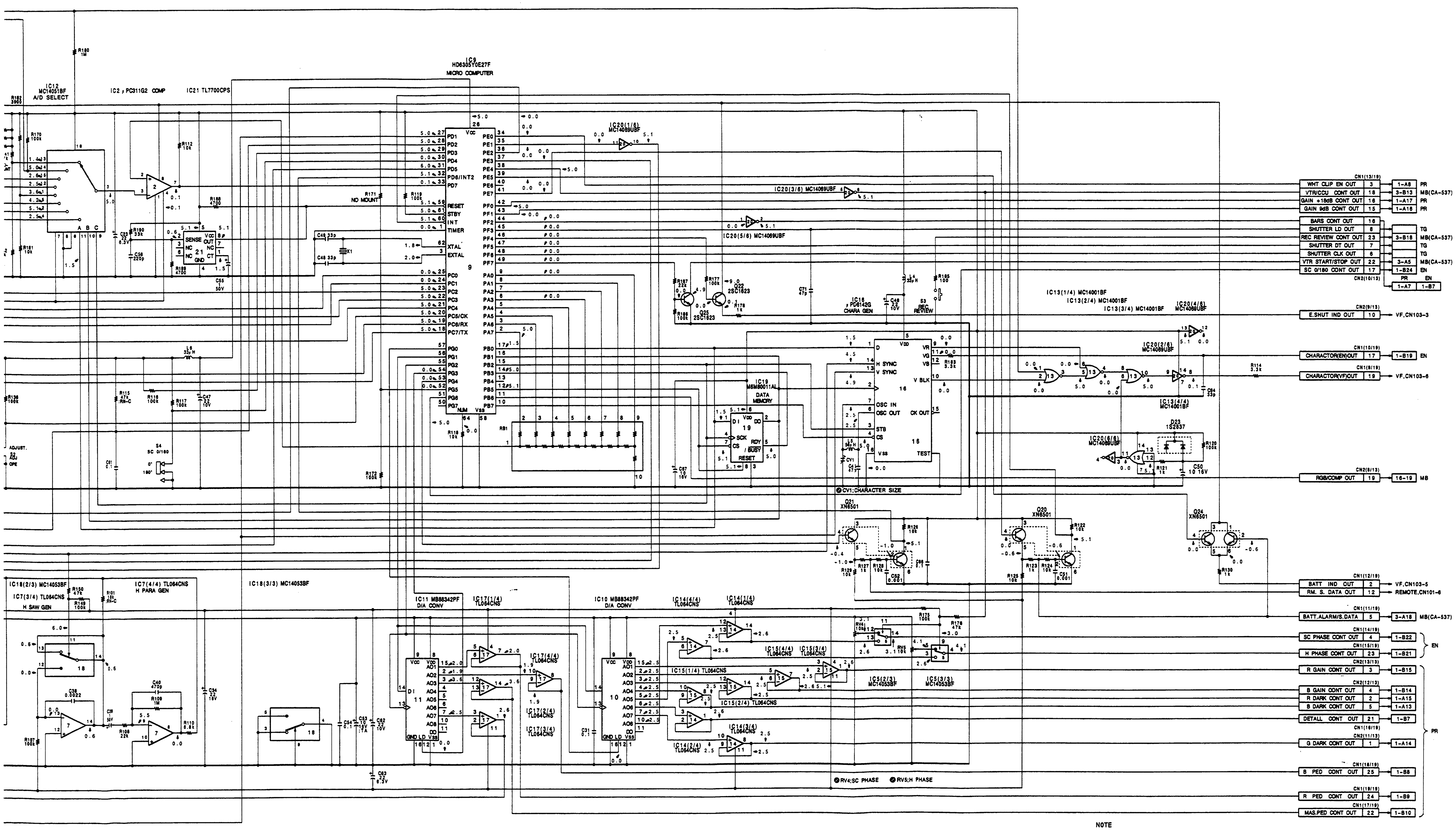
IC9-62pin
4MHz



AT-59 BOARD


MARKER IN
VTR ID IN
GAIN SW IN
W/B SW IN
BARS SW IN
VTR S/S SW IN
GND
+9V IN
+5V IN
+5V IN
R PR VIDEO IN
B PR VIDEO IN
G PR VIDEO IN
HD IN
BLKG IN
GND
GND
-5V IN
ZEBRA CONT OUT
MARKER ON/OFF
VTR START/STOP SW IN
POWER +12V DC IN
VD IN
POWER +12V DC GND
IRIS CONT OUT
COMPULSORY AUTO IRIS CONT OUT
REMOTE,CN101-5
LENS,CN102-3
LENS,CN102-7
LENS,CN102-4
IC1(1/2) MC14053BF R B SELECT
IC1(2/2) MC14053BF RGB SELECT
G.BLKG SELECT
IC4(1/4) TL064CNS DC AMP
IC12 MC14051BF A/D SELECT
IC2 ; PC311G2 COMP
IC3(1/2) LM2903M COMP
IC3(2/2) LM2903M
IC4(2/4) TL064CNS BLKG BUFF
IC4(3/4) TL064CNS DIFF AMP
IC4(4/4) TL064CNS AMP
IC5(1/3) MC14053BF
IC18(1/3) MC14053BF
IC7(1/4) TL064CNS V SAW GEN
IC7(2/4) TL064CNS V PARA GEN
IC7(3/4) TL064CNS H SAW GEN
IC7(4/4) TL064CNS H PARA GEN
IC18(2/3) MC14053BF
Q11 2SC1623 Y BUFF
Q12 XN6501 Y AMP
Q26 2SC2757 BUFF
Q13 XN6534 PEAK DETECT
Q14 XN4601 INV
ZEBRA
SHUTTER
ADJUST.
RV2;IRIS MODE
RV3;IRIS SET
RV1;LOW LIGHT LEVEL

DXC-537 (J,UC)
DXC-537P(EK)

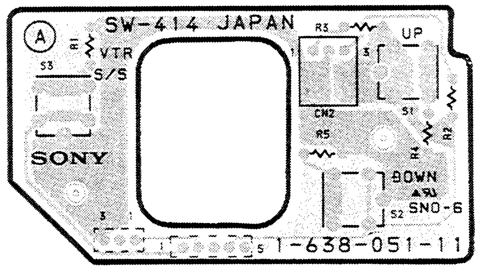

IC12 MC14051BF A/D SELECT
IC2 μPC311G2 COMP
IC21 TL7700CPS
IC9 HD6305Y0E27F MICRO COMPUTER
IC20(1/6) MC14069UBF
IC20(3/6) MC14069UBF
IC20(5/6) MC14069UBF
Q22 2SC1623
Q25 2SC1623
IC16 μPD6142G CHARA GEN
S3 REC REVIEW
IC19 M6M80011AL DATA MEMORY
IC13(1/4) MC14001BF
IC13(2/4) MC14001BF
IC13(3/4) MC14001BF
IC13(4/4) MC14001BF
IC20(2/6) MC14069UBF
IC20(4/6) MC14069UBF
IC20(6/6) MC14069UBF
D23 1S2837
CV1;CHARACTER SIZE
Q21 XN6501
Q20 XN6501
Q24 XN6501
S4 SC 0/180
ADJUST. S2 ADJ OPE
IC18(2/3) MC14053BF
IC7(3/4) TL064CNS H SAW GEN
IC7(4/4) TL064CNS H PARA GEN
IC18(3/3) MC14053BF
IC11 MB88342PF D/A CONV
IC17(1/4) TL064CNS
IC17(2/4) TL064CNS
IC17(3/4) TL064CNS
IC17(4/4) TL064CNS
IC10 MB88342PF D/A CONV
IC14(1/4) TL064CNS
IC14(2/4) TL064CNS
IC14(3/4) TL064CNS
IC14(4/4) TL064CNS
IC15(1/4) TL064CNS
IC15(2/4) TL064CNS
IC15(3/4) TL064CNS
IC15(4/4) TL064CNS
IC5(2/3) MC14053BF
IC5(3/3) MC14053BF
RV4;SC PHASE
RV5;H PHASE
WHT CLIP EN OUT 3 1-A8 PR
VTR/CCU CONT OUT 18 3-B13 MB(CA-537)
GAIN +18dB CONT OUT 16 1-A17 PR
GAIN 9dB CONT OUT 15 1-A16 PR
BARS CONT OUT 16 TG
SHUTTER LD OUT 8 TG
REC REVIEW CONT OUT 23 3-B18 MB(CA-537)
SHUTTER DT OUT 7 TG
SHUTTER CLK OUT 6 TG
VTR START/STOP OUT 22 3-A5 MB(CA-537)
SC 0/180 CONT OUT 17 1-B24 EN
CN2(10/13) PR EN 1-A7 1-B7
E.SHUT IND OUT 10 VF,CN103-3
CHARACTOR(EN)OUT 17 1-B19 EN
CHARACTOR(VF)OUT 19 VF,CN103-6
RGB/COMP OUT 19 16-19 MB
BATT IND OUT 2 VF,CN103-5
RM. S. DATA OUT 12 REMOTE,CN101-6
BATT.ALARM/S.DATA 5 3-A18 MB(CA-537)
SC PHASE CONT OUT 4 1-B22 EN
H PHASE CONT OUT 23 1-B21
R GAIN CONT OUT 3 1-B15
B GAIN CONT OUT 4 1-B14
R DARK CONT OUT 2 1-A15
B DARK CONT OUT 5 1-A13
DETAIL CONT OUT 21 1-B7 PR
G DARK CONT OUT 1 1-A14
B PED CONT OUT 25 1-B8
R PED CONT OUT 24 1-B9
MAS.PED CONT OUT 22 1-B10
1
2
3
4
5

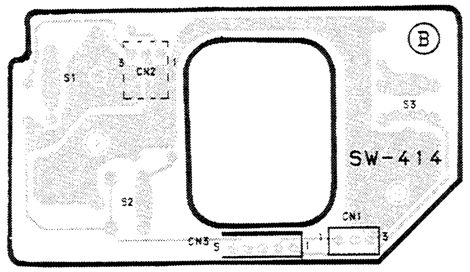
# AT-59 BOARD
DXC-537(J,UC)
DXC-537P(EK)
DXC-537M(J)

NOTE

MARK	ADDRESS	CHANGE INFORMATION	SER NO.
•1	C-5	D12 1S2837—HSM107S	10841- (UC) 30951- (J) 40841- (EK)
•2	F-3	Q26 2SC2757 ADD	11061- (UC) 30641- (J) 40841- (EK)

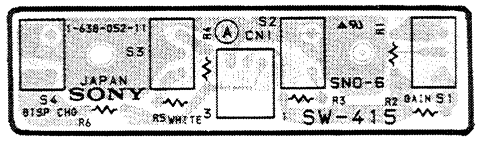
SW-414 BOARD

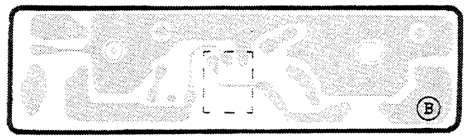

Ⓐ
SW-414 JAPAN
R1
VTR
S/S
S3
SONY
R3
UP
CN2
S1
R5
R4
R2
DOWN
S2
SNO-6
1-638-051-11


Ⓑ
S1
CN2
S3
SW-414
S2
CN3
CN1

1-638-051-11 SOLDERING SIDE

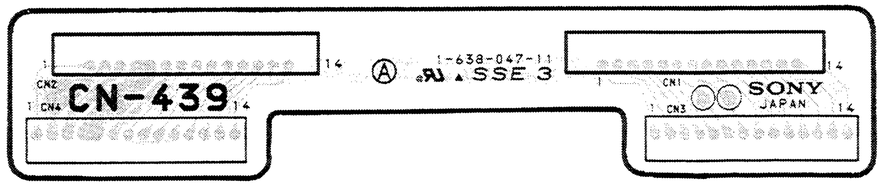
SW-415 BOARD


1-638-052-11
S3
R4
Ⓐ
CN1
S2
JAPAN
SONY
S4
DISP CHG
R6
R5 WHITE
SNO-6
R3
R2 GAIN
S1
SW-415



1-638-052-11 SOLDERING SIDE

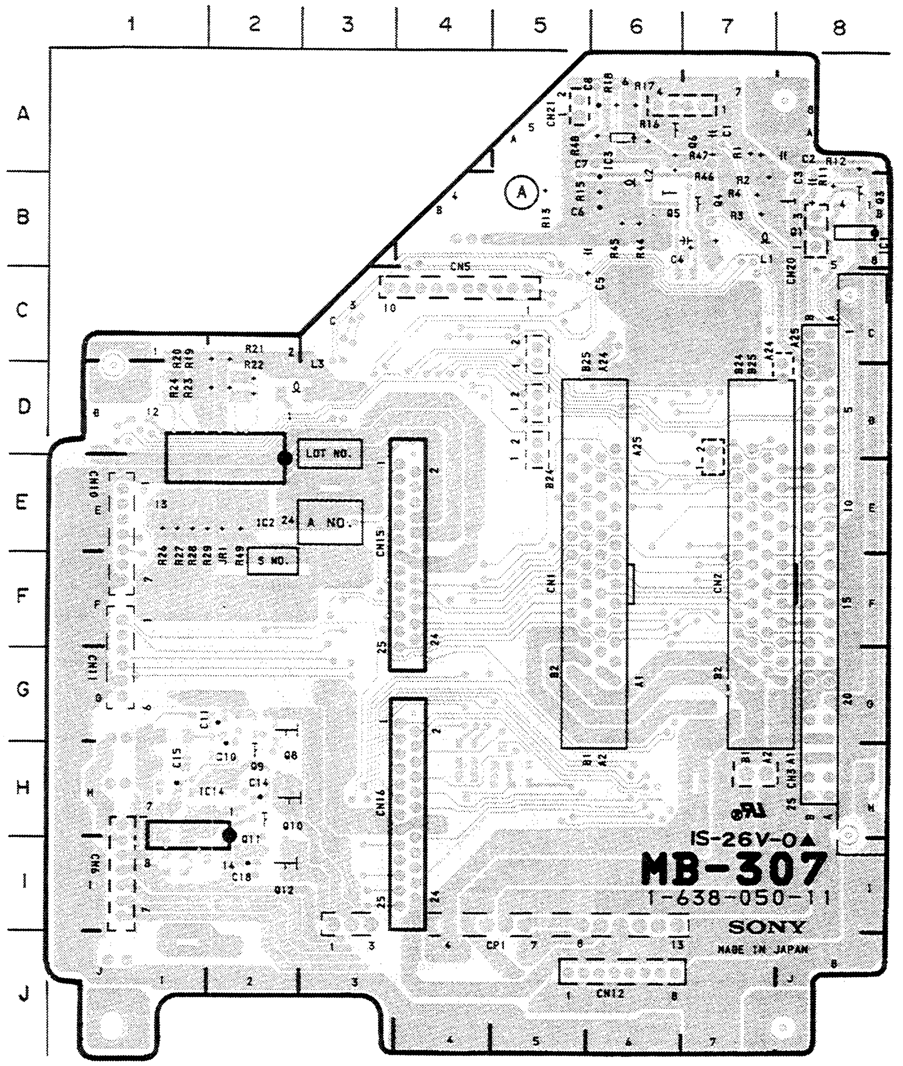
CN-439 BOARD

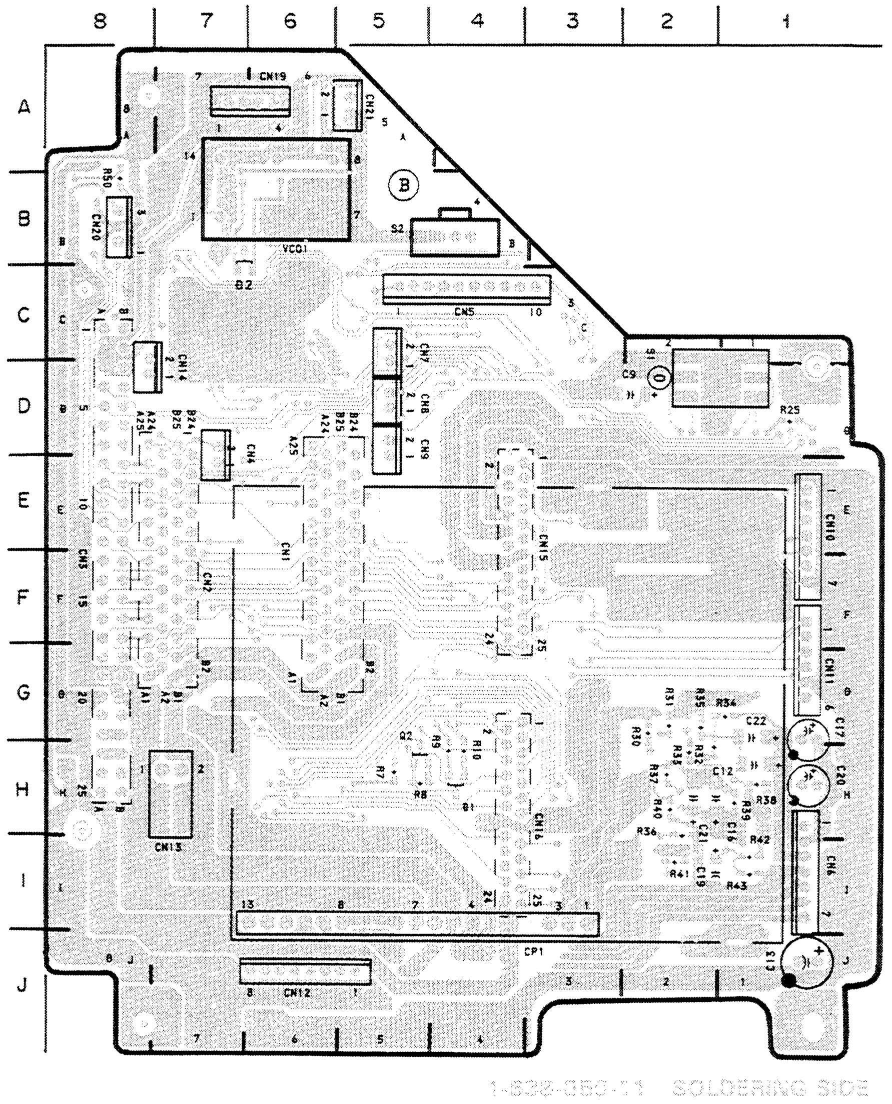

CN2
CN-439
CN4
Ⓐ
1-638-047-11
SSE 3
CN1
CN3
SONY
JAPAN

S/N J ; 30001 through 30040
UC; 10001 through 10060
EK; 40001 through 40050

MB-307 BOARD

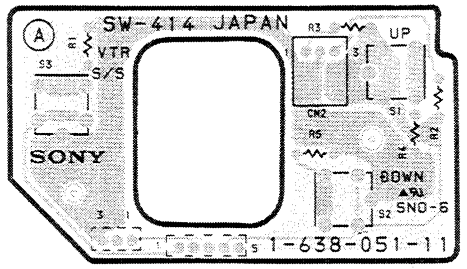
MB-307(1-638-050-11)	
CN1	F-5
CN2	F-7
CN3	H-8
CN4	D-6
CN5	C-4
CN6	I-1
CN7	C-5
CN8	D-5
CN9	D-5
CN10	E-1
CN11	G-1
CN12	J-6
CN13	I-7
CN14	D-7
CN15	E-3
CN16	H-3
CN19	A-6
CN20	B-8
CN21	A-5
D1	H-4
D2	C-7
IC1	B-8
IC2	E-2
IC3	A-6
IC5	H-1
L1	B-7
L2	B-6
L3	D-3
Q1	B-8
Q2	G-5
Q3	B-8
Q4	B-7
Q5	B-6
Q6	A-7
Q8	H-2
Q9	H-2
Q10	H-2
Q11	I-2
Q12	I-2
S1	C-2
S2	B-5
VCO1	B-6

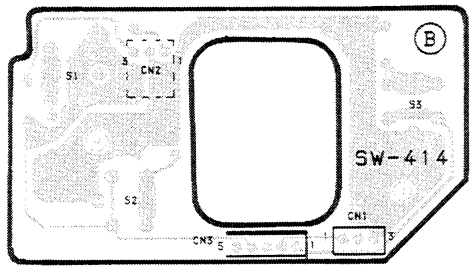

1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
Ⓐ
CN1
CN2
CN5
CN15
CN16
CN12
CP1
LOT NO.
A NO.
S NO.
IS-26V-0▲
MB-307
1-638-050-11
SONY
MADE IN JAPAN


8
7
6
5
4
3
2
1
A
B
C
D
E
F
G
H
I
J
Ⓑ
VCO1
CN19
CN5
CN1
CN2
CN15
CN16
CN13
CN12
CP1
1-638-050-11 SOLDERING SIDE

MB-307(1-638-050-11)	
CN1	F-5
CN2	F-7
CN3	H-8
CN4	D-6
CN5	C-4
CN6	I-1
CN7	C-5
CN8	D-5
CN9	D-5
CN10	E-1
CN11	G-1
CN12	J-6
CN13	I-7
CN14	D-7
CN15	E-3
CN16	H-3
CN19	A-6
CN20	B-8
CN21	A-5
D1	H-4
D2	C-7
IC1	B-8
IC2	E-2
IC3	A-6
IC5	H-1
L1	B-8
L2	B-6
L3	D-3
Q1	B-7
Q2	G-5
Q3	B-8
Q4	B-7
Q5	B-6
Q6	A-7
Q8	H-2
Q9	H-2
Q10	H-2
Q11	I-2
Q12	I-2
S1	C-2
S2	B-5
VCO1	B-6

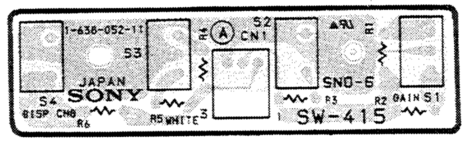
SW-414 BOARD

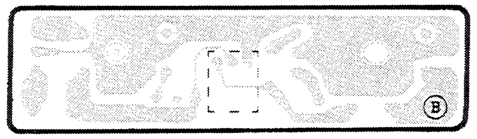

Ⓐ
SW-414 JAPAN
VTR
S/S
UP
DOWN
SNO-6
SONY
S1
S2
S3
CN2
1-638-051-11


Ⓑ
SW-414
S1
S2
S3
CN1
CN2
CN3

1-638-051-11 SOLDERING SIDE

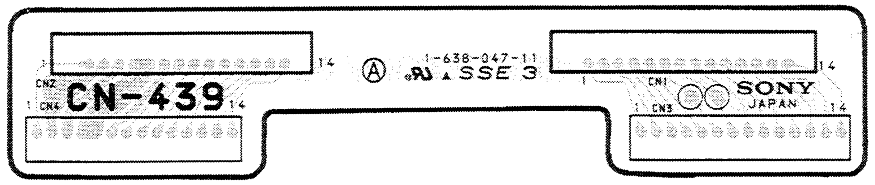
SW-415 BOARD


1-638-052-11
Ⓐ
CN1
S2
S3
S4
S1
JAPAN
SONY
SNO-6
SW-415
WHITE
GAIN



1-638-052-11 SOLDERING SIDE

CN-439 BOARD

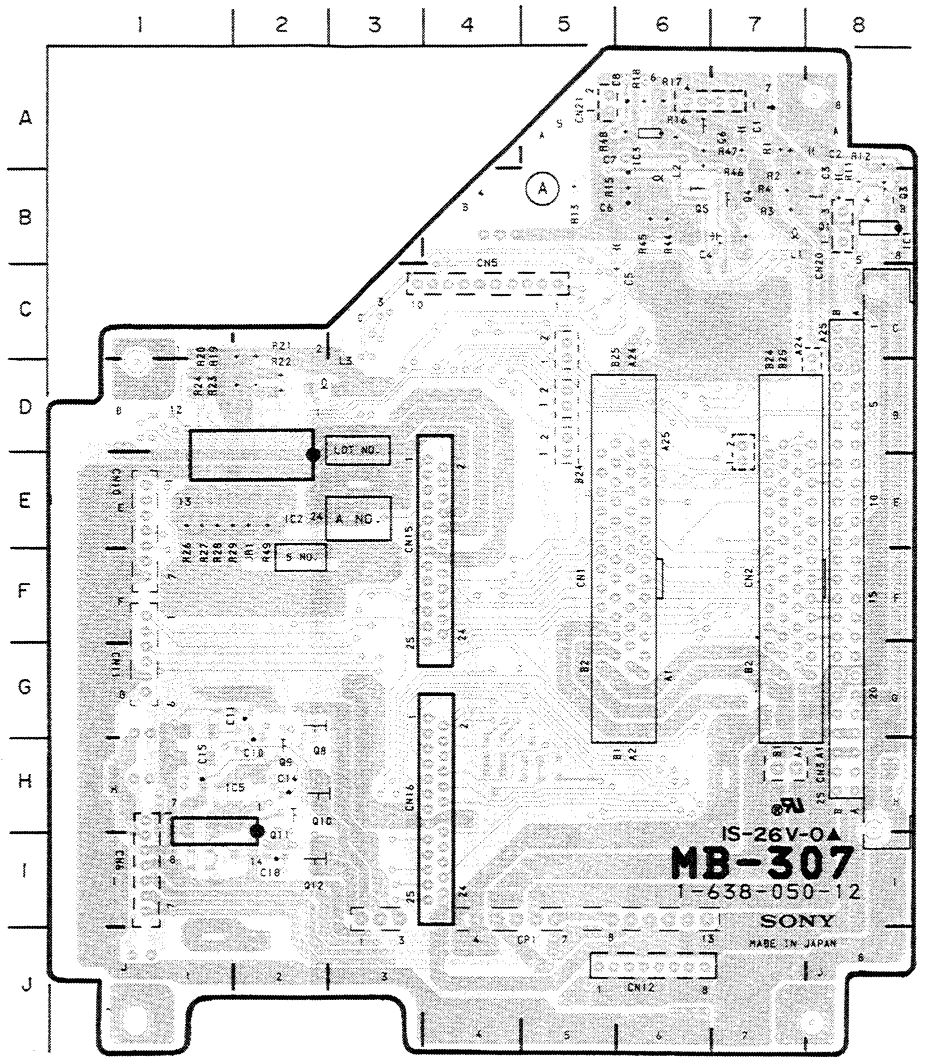

CN-439
CN1
CN2
CN3
CN4
Ⓐ
1-638-047-11
SSE 3
SONY
JAPAN

MB-307 BOARD

S/N J ; 30041 through 30280
UC; 10061 through 10370
EK; 40051 through 40440

MB-307(1-638-050-12)

CN1	F-5
CN2	F-7
CN3	H-8
CN4	D-6
CN5	C-4
CN6	I-1
CN7	C-5
CN8	D-5
CN9	D-5
CN10	E-1
CN11	G-1
CN12	J-6
CN13	I-7
CN14	D-7
CN15	E-3
CN16	H-3
CN19	A-6
CN20	B-8
CN21	A-5
D1	H-4
D2	C-7
IC1	B-8
IC2	E-2
IC3	A-6
IC5	H-1
L1	B-7
L2	B-6
L3	D-3
Q1	B-8
Q2	G-5
Q3	B-8
Q4	B-7
Q5	B-6
Q6	A-7
Q8	H-2
Q9	H-2
Q10	H-2
Q11	I-2
Q12	I-2
S1	C-2
S2	B-5
VCO1	B-6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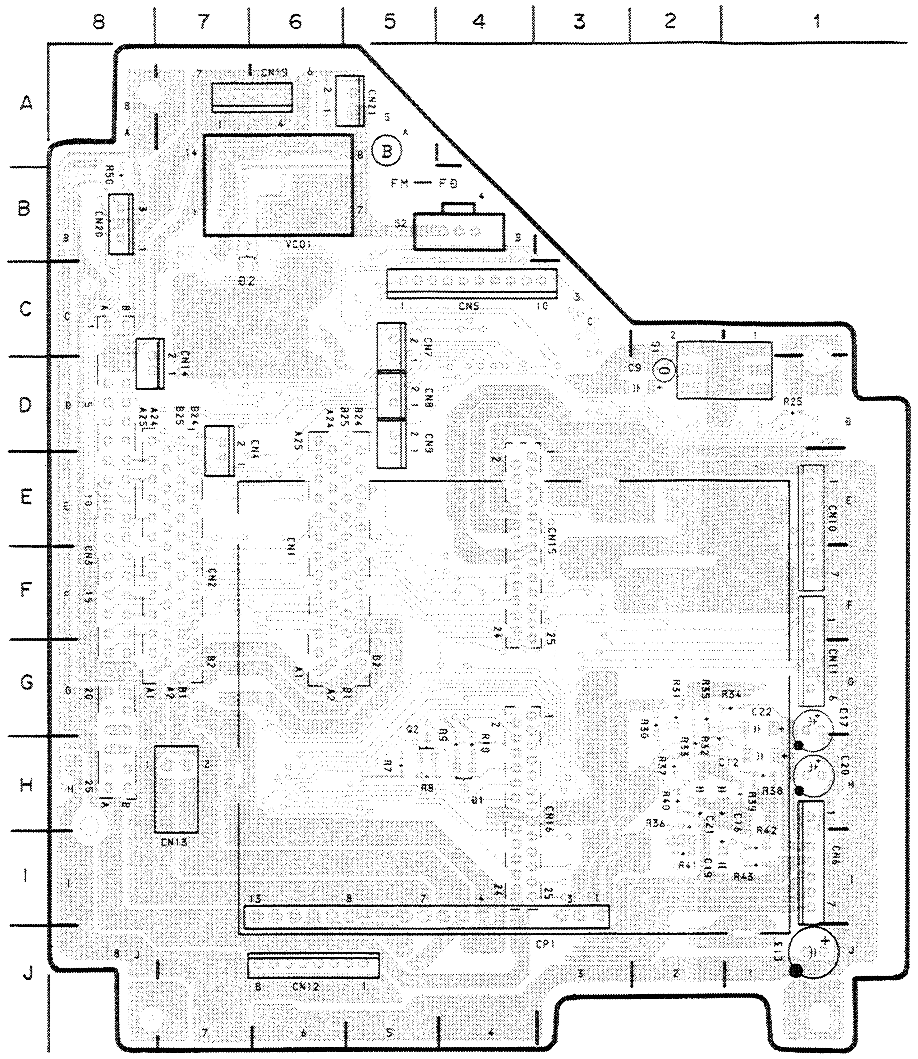
A
B
C
D
E
F
G
H
I
J
Ⓐ
CN1
CN2
CN5
CN12
CN15
CN16
IC2
IC5
LOT NO.
A NO.
S NO.
IS-26V-0▲
MB-307
1-638-050-12
SONY
MADE IN JAPAN

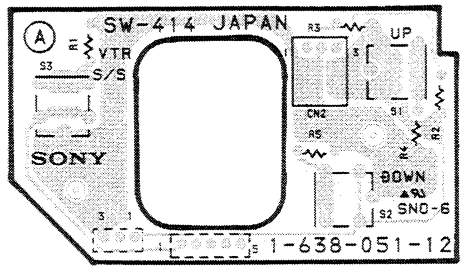

8
7
6
5
4
3
2
1
A
B
C
D
E
F
G
H
I
J
CN19
CN21
VCO1
FM — FD
S2
CN20
D2
CN5
CN14
CN7
CN8
CN9
CN4
CN1
CN2
CN15
S1
CN10
CN11
CN16
CN13
CN6
CP1
CN12

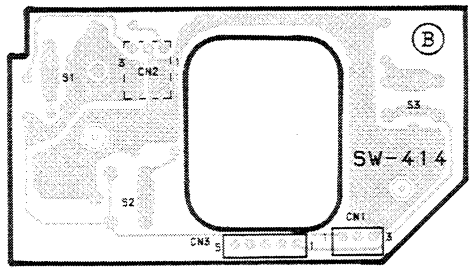
1-638-050-12 SOLDERING SIDE

MB-307(1-638-050-12)

CN1	F-5
CN2	F-7
CN3	H-8
CN4	D-6
CN5	C-4
CN6	I-1
CN7	C-5
CN8	D-5
CN9	D-5
CN10	E-1
CN11	G-1
CN12	J-6
CN13	I-7
CN14	D-7
CN15	E-3
CN16	H-3
CN19	A-6
CN20	B-8
CN21	A-5
D1	H-4
D2	C-7
IC1	B-8
IC2	E-2
IC3	A-6
IC5	H-1
L1	B-7
L2	B-6
L3	D-3
Q1	B-8
Q2	G-5
Q3	B-8
Q4	B-7
Q5	B-6
Q6	A-7
Q8	H-2
Q9	H-2
Q10	H-2
Q11	I-2
Q12	I-2
S1	C-2
S2	B-5
VCO1	B-6

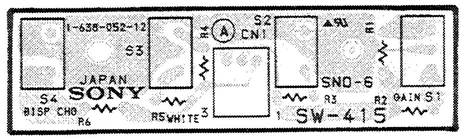
SW-414 BOARD

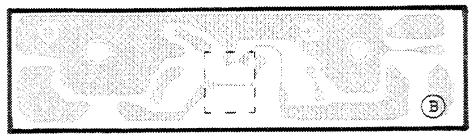

A
SW-414 JAPAN
VTR
S/S
S3
UP
CN2
R5
S1
R4
R2
R3
DOWN
S2
SNO-6
SONY
1-638-051-12


B
S1
CN2
S2
S3
SW-414
CN3
CN1

1-638-051-12 SOLDERING SIDE

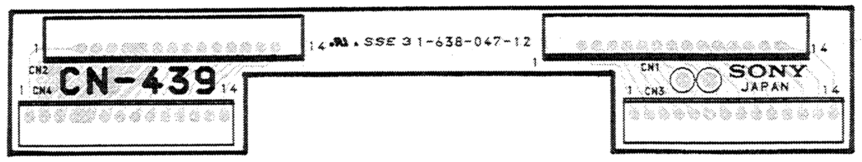
SW-415 BOARD


1-638-052-12
A
S2
CN1
S3
JAPAN
SONY
S4
DISP
CHG
R6
R5
WHITE
R3
R2
GAIN
S1
SNO-6
SW-415



1-638-052-12 SOLDERING SIDE

CN-439 BOARD

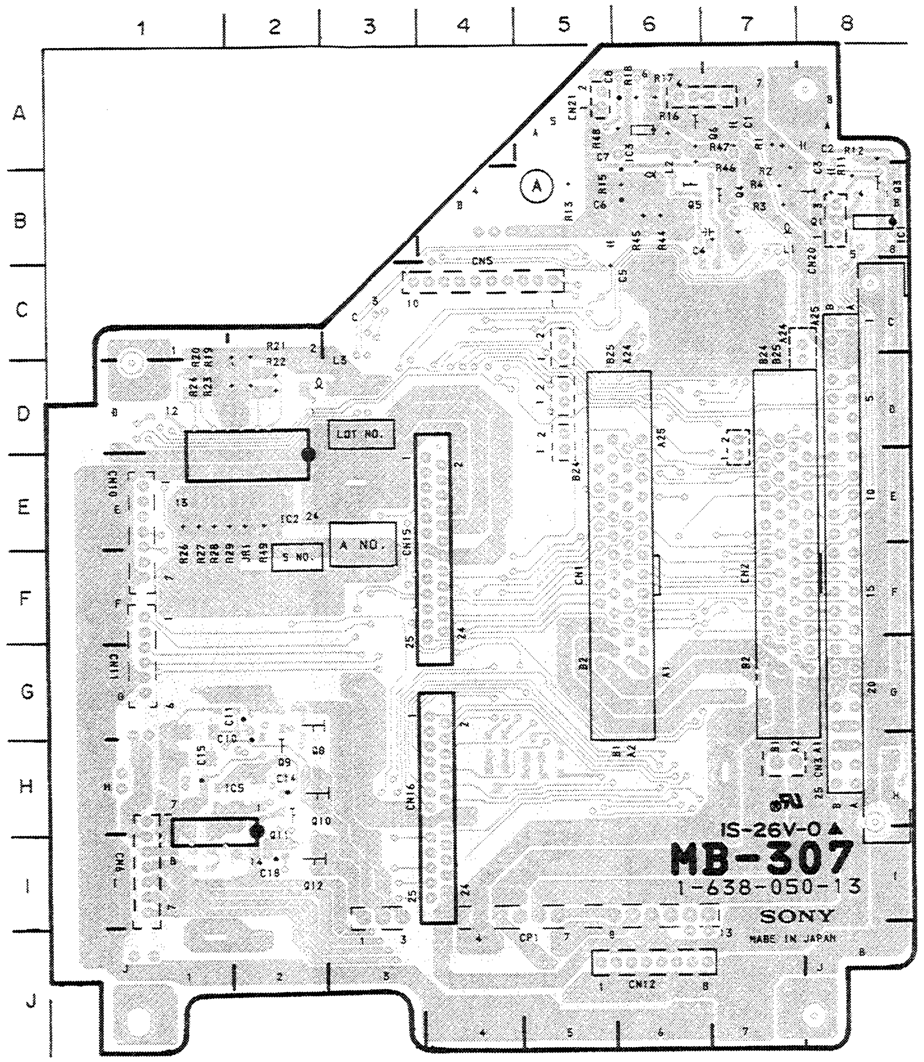

CN2
CN4
CN-439
SSE 3 1-638-047-12
CN1
CN3
SONY
JAPAN
1
14

S/N J ; 30281 and higher
UC; 10371 and higher
EK; 40441 and higher

MB-307 BOARD

MB-307(1-638-050-13)

CN1	F-5
CN2	F-7
CN3	H-8
CN4	D-6
CN5	C-4
CN6	I-1
CN7	C-5
CN8	D-5
CN9	D-5
CN10	E-1
CN11	G-1
CN12	J-6
CN13	I-7
CN14	D-7
CN15	E-3
CN16	H-3
CN19	A-6
CN20	B-8
CN21	A-5
D1	H-4
D2	C-7
IC1	B-8
IC2	E-2
IC3	A-6
IC5	H-1
L1	B-7
L2	B-6
L3	D-3
Q1	B-8
Q2	G-5
Q3	B-8
Q4	B-7
Q5	B-6
Q6	A-7
Q8	H-2
Q9	H-2
Q10	H-2
Q11	I-2
Q12	I-2
S1	C-2
S2	B-5
VCO1	B-6


1
2
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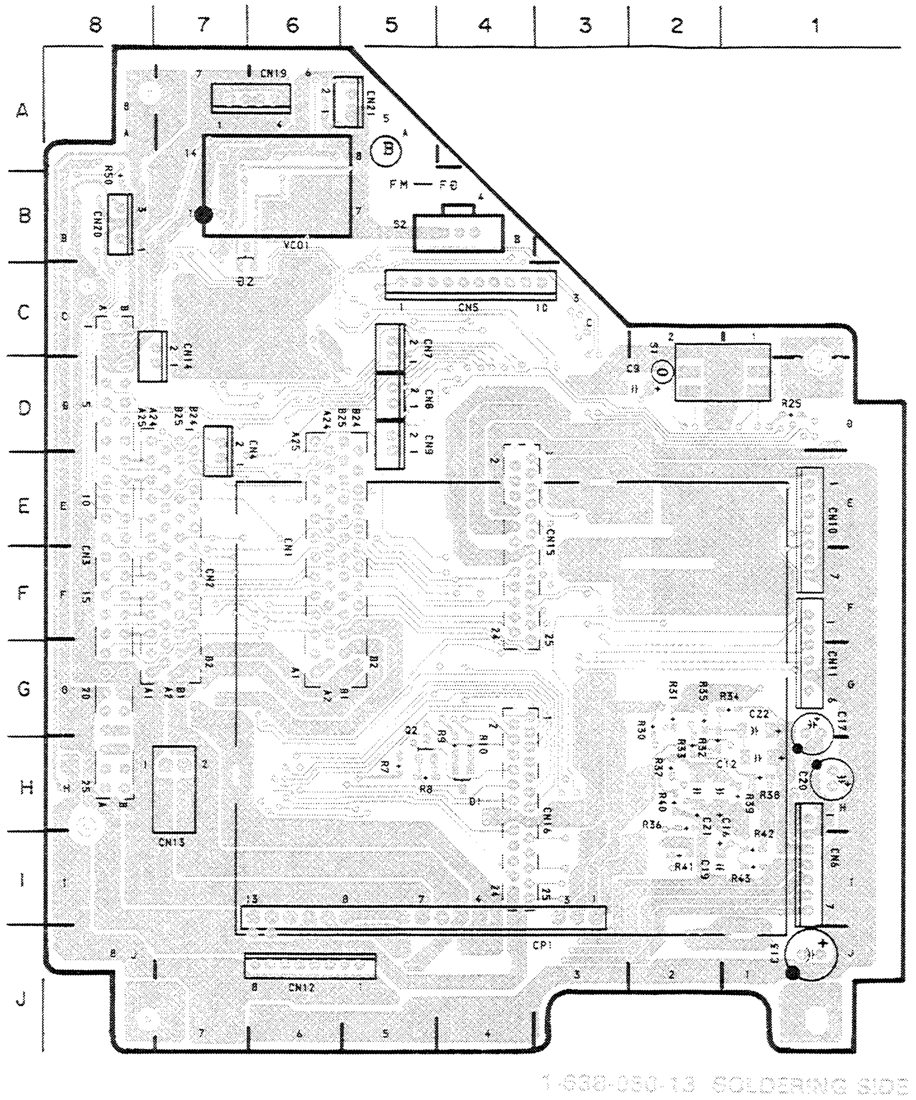
6
7
8
A
B
C
D
E
F
G
H
I
J
A
CN5
CN1
CN2
CN15
CN16
CN12
IC2
IC5
LOT NO.
A NO.
S NO.
IS-26V-0
MB-307
1-638-050-13
SONY
MADE IN JAPAN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CP1
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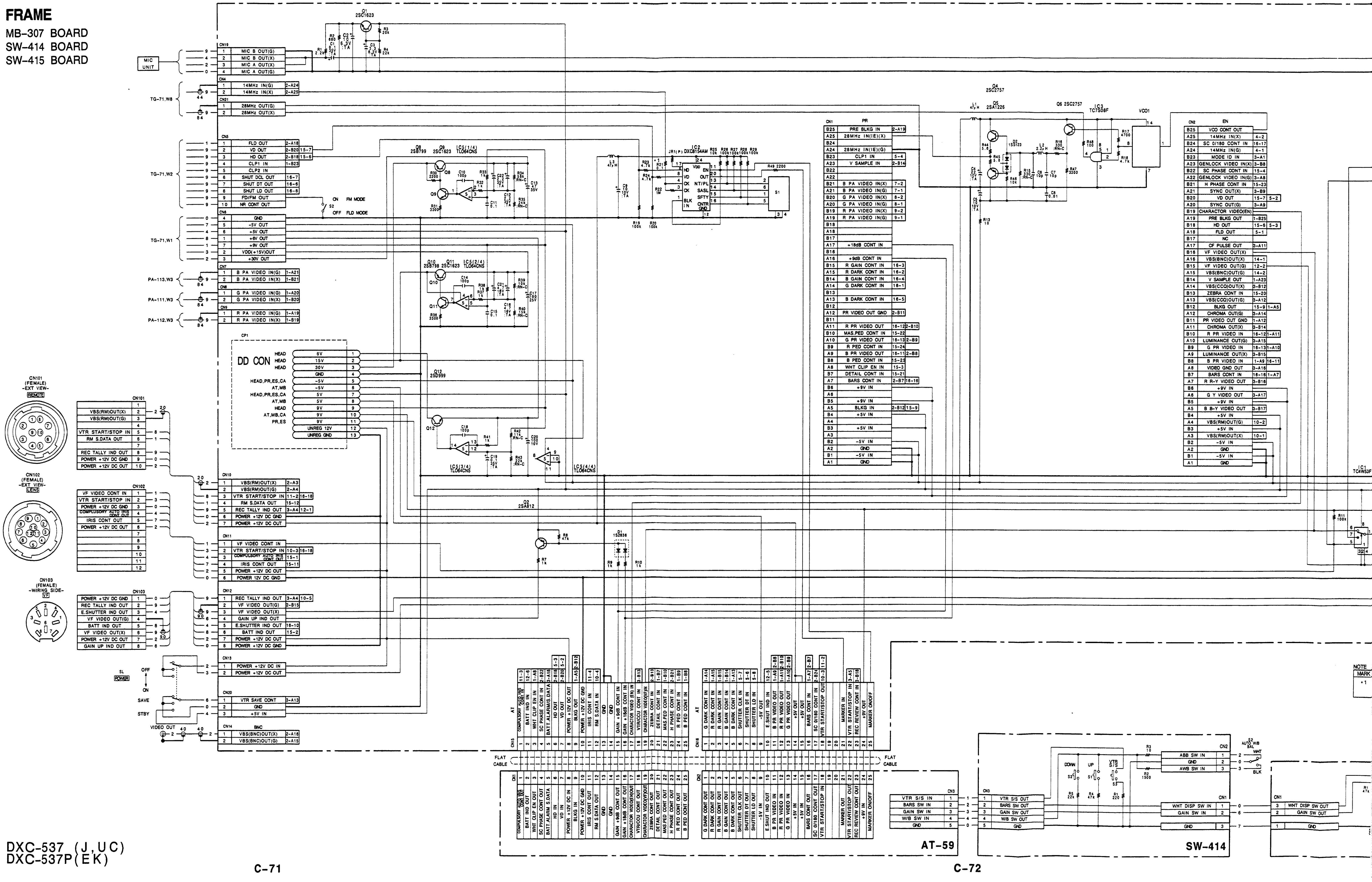
C13
1-638-050-13 SOLDERING SIDE

MB-307(1-638-050-13)

CN1	F-5
CN2	F-7
CN3	H-8
CN4	D-6
CN5	C-4
CN6	I-1
CN7	C-5
CN8	D-5
CN9	D-5
CN10	E-1
CN11	G-1
CN12	J-6
CN13	I-7
CN14	D-7
CN15	E-3
CN16	H-3
CN19	A-6
CN20	B-8
CN21	A-5
D1	H-4
D2	C-7
IC1	B-8
IC2	E-2
IC3	A-6
IC5	H-1
L1	B-7
L2	B-6
L3	D-3
Q1	B-8
Q2	G-5
Q3	B-8
Q4	B-7
Q5	B-6
Q6	A-7
Q8	H-2
Q9	H-2
Q10	H-2
Q11	I-2
Q12	I-2
S1	C-2
S2	B-5
VCO1	B-6

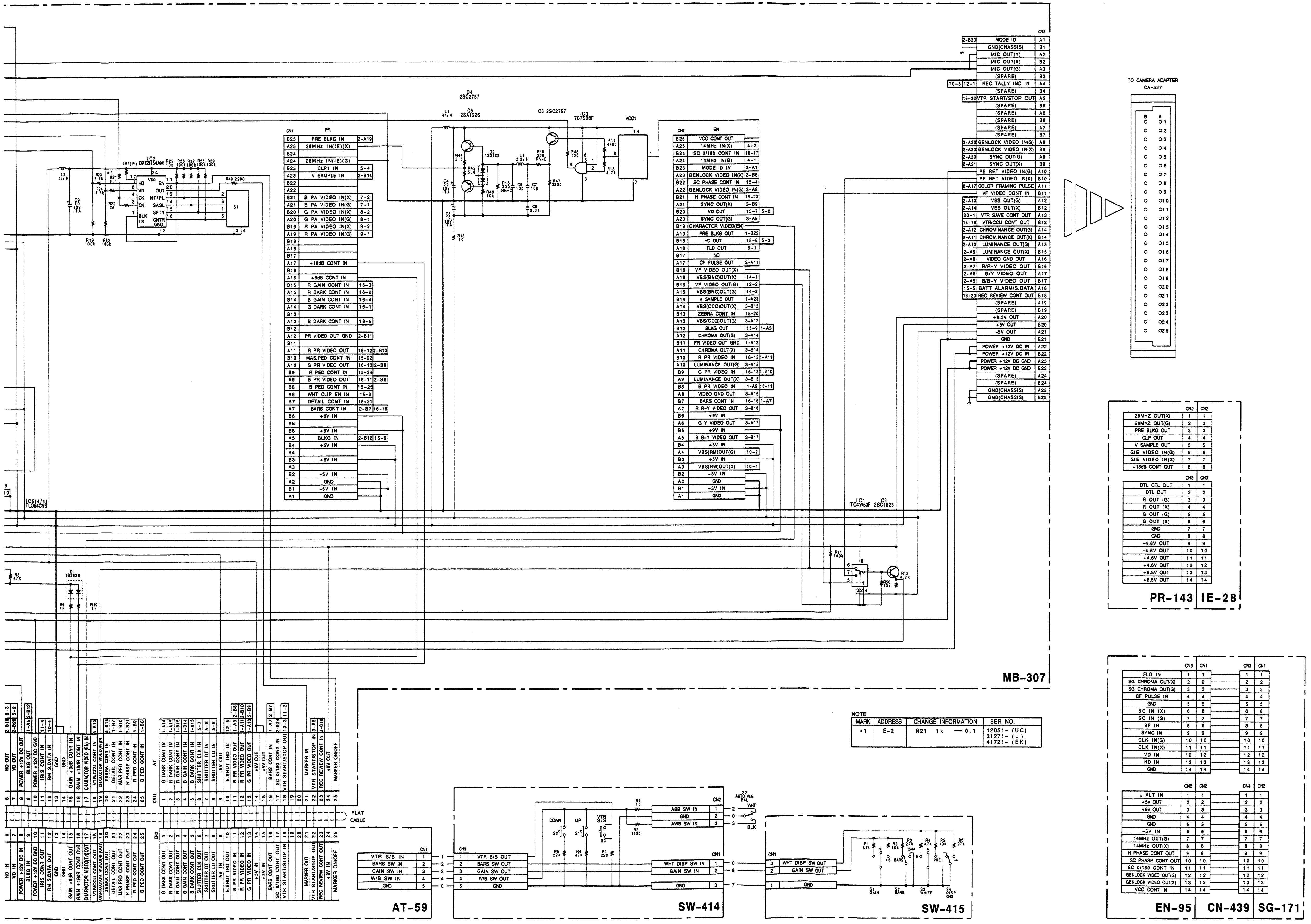
FRAME

MB-307 BOARD
SW-414 BOARD
SW-415 BOARD


MIC UNIT
CN19
MIC B OUT(G)
MIC B OUT(X)
MIC A OUT(X)
MIC A OUT(G)
Q1 2SC1623
TG-71,W8
CN4
14MHz IN(G)
14MHz IN(X)
CN21
28MHz OUT(G)
28MHz OUT(X)
TG-71,W2
CN5
FLD OUT
VD OUT
HD OUT
CLP1 IN
CLP2 IN
SHUT DCL OUT
SHUT DT OUT
SHUT LD OUT
FD/FM OUT
NR CONT OUT
S2
ON FM MODE
OFF FLD MODE
TG-71,W1
CN6
GND
-5V OUT
+5V OUT
+6V OUT
+9V OUT
VDD(+15V)OUT
+30V OUT
PA-113,W3
CN7
B PA VIDEO IN(G)
B PA VIDEO IN(X)
PA-111,W3
CN8
G PA VIDEO IN(G)
G PA VIDEO IN(X)
PA-112,W3
CN9
R PA VIDEO IN(G)
R PA VIDEO IN(X)
Q8 2SB799
Q9 2SC1623
IC5(1/4) TL064CNS
Q10 2SB798
Q11 2SC1623
IC5(2/4) TL064CNS
Q12 2SD999
IC5(3/4) TL064CNS
IC5(4/4) TL064CNS
Q2 2SA812
D1 1SS226
IC2 DXC8154AM
S1
CP1
DD CON
HEAD 6V
HEAD 15V
HEAD 30V
GND
HEAD,PR,ES,CA -5V
AT,MB -5V
HEAD,PR,ES,CA 5V
AT,MB 5V
HEAD 9V
AT,MB,CA 9V
PR,ES 9V
UNREG 12V
UNREG GND
CN101 (FEMALE) -EXT VIEW- REMOTE
VBS(RM)OUT(X)
VBS(RM)OUT(G)
VTR START/STOP IN
RM S.DATA OUT
REC TALLY IND OUT
POWER +12V DC GND
POWER +12V DC OUT
CN102 (FEMALE) -EXT VIEW- LENS
VF VIDEO CONT IN
VTR START/STOP IN
POWER +12V DC GND
COMPULSORY AUTO IRIS CONT OUT
IRIS CONT OUT
POWER +12V DC OUT
CN103 (FEMALE) -WIRING SIDE- VF
POWER +12V DC GND
REC TALLY IND OUT
E.SHUTTER IND OUT
VF VIDEO OUT(G)
BATT IND OUT
VF VIDEO OUT(X)
POWER +12V DC OUT
GAIN UP IND OUT
CN10
CN11
CN12
CN13
POWER +12V DC IN
POWER +12V DC OUT
SL POWER
OFF
ON
SAVE
STBY
CN20
VTR SAVE CONT
GND
+5V IN
VIDEO OUT
CN14 BNC
VBS(BNC)OUT(X)
VBS(BNC)OUT(G)
Q4 2SC2757
Q5 2SA1225
Q6 2SC2757
IC3 TC7S08F
VCO1
CN1 PR
CN2 EN
IC1 TC4W53F
AT
FLAT CABLE
C-71
C-72
AT-59
CN3
VTR S/S IN
BARS SW IN
GAIN SW IN
W/B SW IN
GND
VTR S/S OUT
BARS SW OUT
GAIN SW OUT
W/B SW OUT
DOWN
UP
VTR S/S
S2 AUTO W/B BAL
WHT
BLK
ABB SW IN
AWB SW IN
WHT DISP SW IN
GAIN SW IN
SW-414
WHT DISP SW OUT
GAIN SW OUT
NOTE MARK

DXC-537 (J,UC)
DXC-537P(EK)

A | B | C | D | E | F | G | H | I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IC3 TC7S08F
IC1 TC4W53F
IC5(4/4) TL064CNS
Q4 2SC2757
Q5 2SA1226
Q6 2SC2757
Q3 2SC1623
VCO1
D1 1S2836
TO CAMERA ADAPTER CA-537
FLAT CABLE
AT-59
SW-414
SW-415
PR-143
IE-28
EN-95
CN-439
SG-171
C-72
C-73
S1 GAIN
S2 BARS
S3 WHITE
S4 DISP CHG
S2 AUTO W/B BAL
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NOTE

MARK	ADDRESS	CHANGE INFORMATION	SER NO.
*1	E-2	R21 1k → 0.1	12051- (UC) 31271- (J) 41721- (EK)

FRAME WIRING

MB-307 BOARD
SW-414 BOARD
SW-415 BOARD
DXC-537(J,UC)
DXC-537P(EK)
DXC-537M(J)

SECTION D
SPARE PARTS

PARTS INFORMATION

1. **Safety Related Component Warning**

   Components indentified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service manual supplements published by Sony.

2. Replacement Parts supplied from Sony Parts Center will sometimes have different shape and outside view from the parts which actually in use. This is due to **"accommodating the improved parts and/or engineering changes" or "standardization of genuine parts."** This manual 's exploded view and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present." Regarding engineering parts and diagrams changes in our engineering department, refer to SONY service bulletins and service manual supplements.

3. The parts marked with "S" in the SP column of the exploded views and electrical spare parts list are normally required for routine service work. Orders for parts marked with "O" will be processed, but allow for additional delivery time.

4. Item with no parts number and/or no description are not stocked because they are seldom required for routine service.

5. All capacitors are in micro farads unless otherwise specified.
   All inductors are in micro henries unless otherwise specified.
   All resistors are in ohms.

EXPLODED VIEW

CCD BLOCK

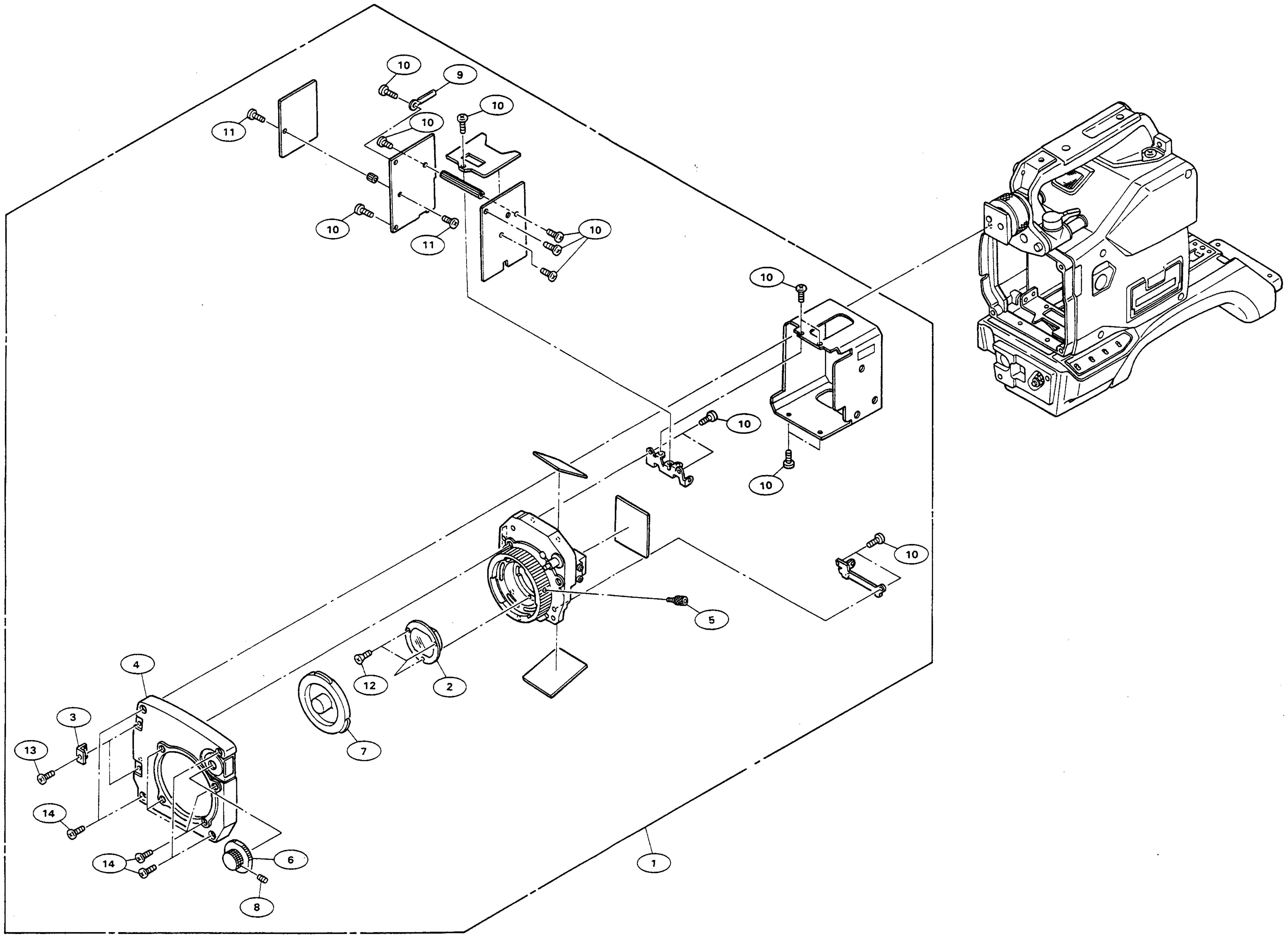
No.	Part No.	SP	Description
1	A-7575-164-A	s	CCD UNIT-C537 (N) (for DXC-537) *1)
	A-7575-165-A	s	CCD UNIT-C537P (P) (for DXC-537P)*2)
2	1-547-474-11	o	FILTER UNIT, OPTICS
3	3-168-347-01	o	HOLDER, CABLE
4	3-168-368-03	o	PANEL, FRONT
5	3-678-629-00	s	LEVER, MOUNT
6	3-688-781-02	s	KNOB, FILTER
7	3-699-048-01	s	CAP, MOUNT
8	3-701-506-01	s	SET SCREW, DOUBLE POINT 3X4
9	3-701-822-00	o	HOLDER, WIRE
10	7-621-770-87	s	SCREW +B 2.6X5
11	7-621-775-08	s	SCREW +B 2.6X3
12	7-627-452-38	s	SCREW, PRECISION +K 2X5
13	7-627-556-28	s	SCREW +P 2.6X3.5
14	7-682-548-09	s	SCREW +B 3X8

*1) CCD BLOCK NUMBER;W A xxxxx N
*2) CCD BLOCK NUMBER;W A xxxxx P

How to read the CCD BLOCK NUMBER

W A xxxxx N
N;NTSC, P;PAL
Block number of CCD UNIT
Suffix of Spare Part number
Block No.

CCD BLOCK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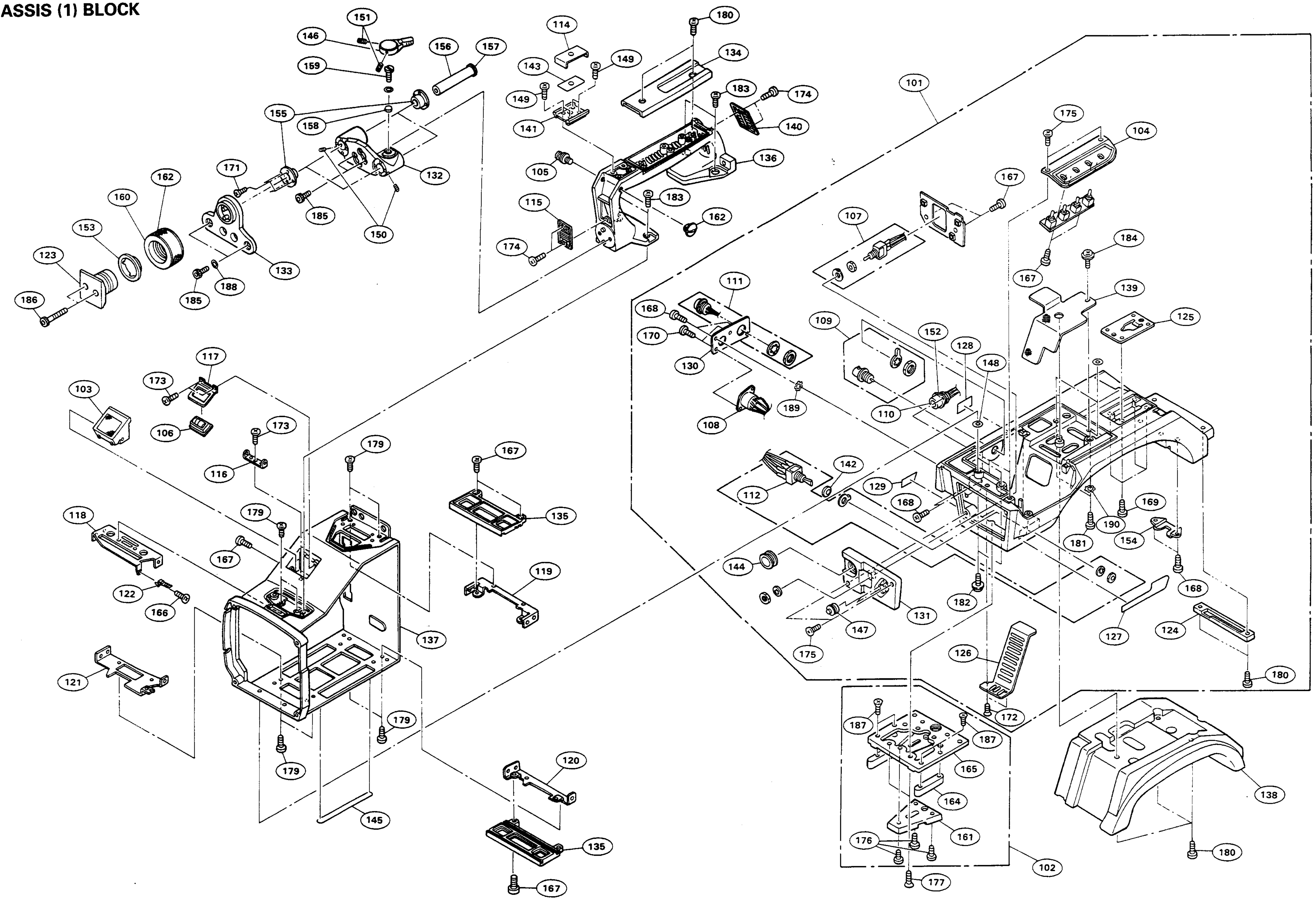
CHASSIS (1) BLOCK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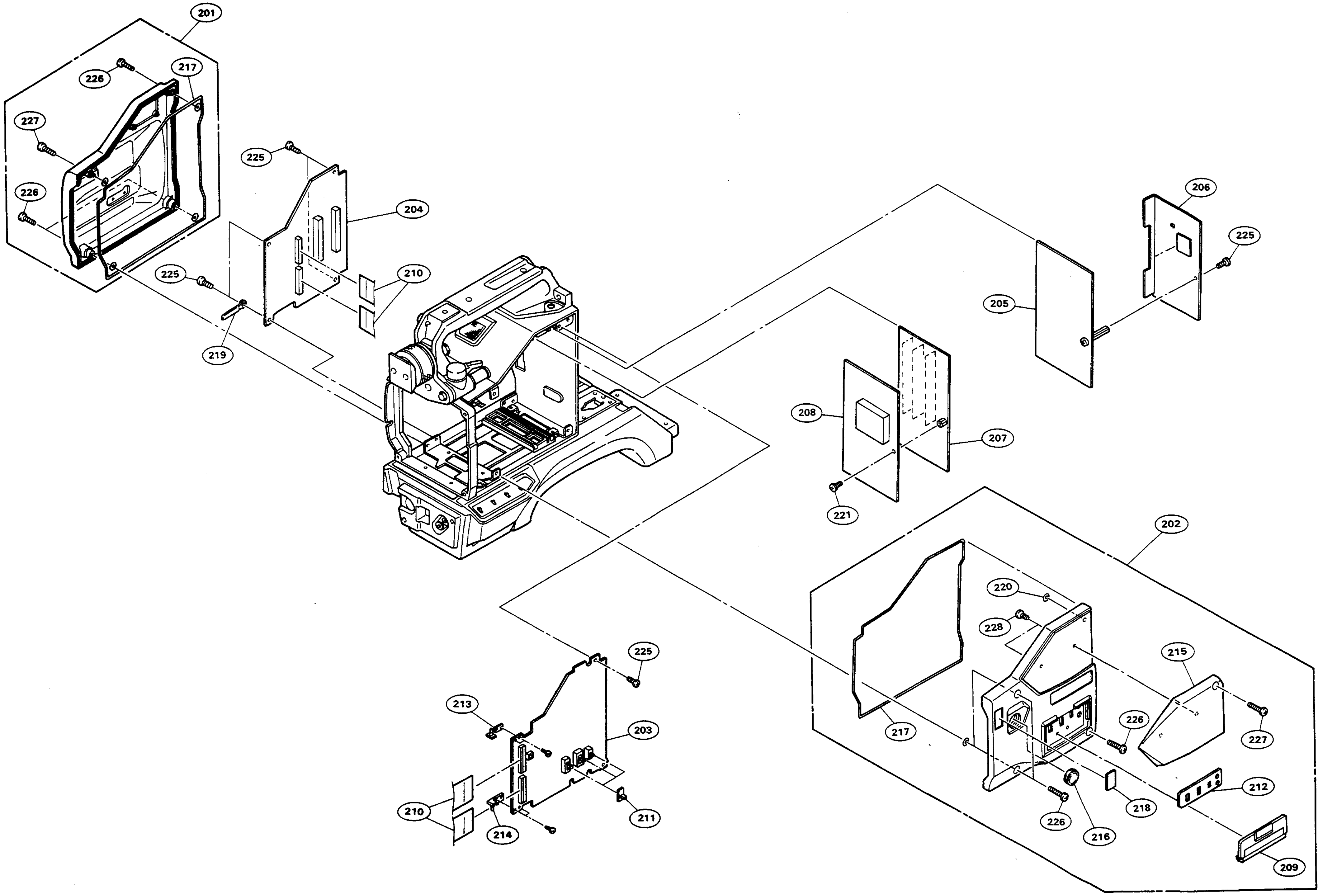
CHASSIS (1) BLOCK

No.	Part No.	SP	Description
101	A-7420-201-A	o	CHASSIS ASSY, BASE
102	A-7612-352-A	s	SHOE (A) ASSY, V
103	X-3165-705-1	o	GRILLE ASSY, MICROPHONE
104	X-3165-716-2	o	PANEL ASSY, SIDE SW
105	X-3744-307-1	s	SUSPENSION ASSY
106	1-542-126-31	s	MICROPHONE UNIT
107	1-554-486-00	s	SWITCH, TOGGLE
108	1-561-320-00	s	SOCKET, DIN 8P
109	1-561-781-21	s	CONNECTOR, BNC "VIDEO OUT"
110	1-562-221-21	s	CONNECTOR, 12P "LENS"
111	1-562-782-21	s	CONNECTOR, 10P "REMOTE VF"
112	1-572-659-11	s	SWITCH, TOGGLE "POWER"
113	1-948-168-11	o	HARNESS (CN)
114	2-277-468-01	o	PLATE, ORNAMENTAL, CAMERA SHOE
115	3-168-324-02	o	LID (B), HANDLE
116	3-168-328-01	o	BRACKET, MICROPHONE COVER
117	3-168-329-01	o	BRACKET, MICROPHONE
118	3-168-330-01	o	BRACKET (FRONT UPPER),PC BOARD
119	3-168-331-01	o	BRACKET (REAR UPPER), PC BOARD
120	3-168-332-01	o	BRACKET (REAR LOWER), PC BOARD
121	3-168-333-01	o	BRACKET (FRONT LOWER),PC BOARD
122	3-168-334-01	o	SPRING, AT
123	3-168-335-01	o	SHOE (2), VF SLIDE
124	3-168-337-02	s	FOOT
125	3-168-338-01	s	SHOE, STOPPER
126	3-168-339-01	o	COVER, BOTTOM
127	3-168-340-01	o	LABEL (POWER)
128	3-168-341-01	o	LABEL (VIDEO OUT)
129	3-168-342-01	o	LABEL (LENS)
130	3-168-355-01	o	PLATE, CN
131	3-168-360-01	o	PANEL, FRONT SW
132	3-168-361-02	o	TABLE (2), FIXED, VF SLIDE
133	3-168-362-01	o	TABLE (2), FIXED, VF SHOE
134	3-168-363-02	o	LID (A), HANDLE
135	3-168-364-01	o	RAIL, PC BOARD
136	3-168-369-02	o	HANDLE
137	3-168-370-03	o	CABINET
138	3-168-372-01	s	PAD, SHOULDER
139	3-169-037-01	o	FILTER
140	3-169-268-02	o	LID (C), HANDLE
141	3-657-700-00	s	BRACKET, ACCESSORY
142	3-669-117-21	o	SPACER, MOTOR
143	3-672-213-00	o	SHEET, ADHESIVE
144	3-672-221-02	s	PACKING, CONTROL
145	3-672-253-11	o	RUBBER, CONDUCTIVE
146	3-673-046-00	s	LEVER, LOCK
147	3-676-244-00	s	COVER, SWITCH
148	3-687-116-01	o	WASHER (4), STOPPER
149	3-689-039-11	s	BOLT (M2X6), HOLE, HEXAGON
150	3-701-506-01	s	SET SCREW, DOUBLE POINT 3X4
151	3-701-508-00	s	SET SCREW, DOUBLE POINT 3X6
152	3-710-002-01	o	BRACKET
153	3-710-018-01	o	COLLAR, SLIDE
154	3-711-703-01	o	STOPPER
155	3-711-790-01	o	SPACER (A)
156	3-711-791-01	o	ARM
157	3-711-792-01	o	SCREW
158	3-711-793-01	o	CUSHION (STOPPER)
159	3-711-794-01	o	PIN, STOPPER
160	3-711-795-11	o	RING (B), LOCK
161	3-716-391-01	o	WEDGE, MOUNTING
162	3-720-919-01	o	RUBBER, LOCK RING
163	3-725-907-01	s	BUSHING, BLIND
164	3-729-064-01	o	GUARD (A), CAMERA SHOE
165	3-729-065-01	s	SHOE (A), CAMERA
166	7-621-772-08	s	SCREW +B 2X3
167	7-621-773-86	s	SCREW +B 2.6X4
168	7-621-773-95	s	SCREW +B 2.6X6
169	7-621-775-08	s	SCREW +B 2.6X3
170	7-621-775-20	s	SCREW +B 2.6X5
171	7-627-452-58	s	SCREW +K 2X6 TYPE1
172	7-627-454-28	s	SCREW, PRECISION +K 2.6X4.5
173	7-627-556-37	s	SCREW,PRECISION +P2.6X4 TYPE 1
174	7-627-556-38	s	SCREW +P 2.6X4.0
175	7-627-556-58	s	PRECISION SCREW +P 2.6X5 TYPE1
176	7-682-160-09	s	SCREW +P 4X6
177	7-682-262-09	s	SCREW +K 4X10
178	7-682-546-04	s	SCREW +B 3X5
179	7-682-547-04	s	SCREW +B 3X6
180	7-682-547-09	s	SCREW +B 3X6
181	7-682-562-04	s	SCREW +B 4X10
182	7-682-964-01	s	SCREW +PSW 4X14
183	7-682-563-09	s	SCREW +B 4X12
184	7-682-947-01	s	SCREW +PSW 3X6
185	7-683-419-04	s	BOLT,HEXAGON SOCKET 4X8
186	7-683-427-04	s	BOLT,HEXAGON SOCKET 4X25
187	7-685-234-19	s	SCREW +KTP 2.6X8 TYPE2 N-S
188	7-688-004-02	s	W 4, SMALL
189	7-623-307-07	s	LW2.6, TYPE A
190	7-623-423-07	s	LW4, TYPE B

CHASSIS (2) BLOCK

No.	Part No.	SP	Description
201	A-7420-205-A	o	PLATE (L) ASSY, SIDE
202	A-7420-206-B	o	PLATE (R) ASSY, SIDE
203	A-7515-282-A	o	MOUNTED CIRCUIT BOARD, AT-59
204	A-7515-283-A	o	MOUNTED CIRCUIT BOARD (N), MB-307 (for DXC-537)
	A-7515-284-A	o	MOUNTED CIRCUIT BOARD (P), MB-307 (for DXC-537P)
205	A-7515-285-A	o	MOUNTED CIRCUIT BOARD (U), EN-95 (for DXC-537)
	A-7515-287-A	o	MOUNTED CIRCUIT BOARD (P), EN-95 (for DXC-537P)
206	A-7515-288-A	o	MOUNTED CIRCUIT BOARD (N), SG-171 (for DXC-537)
	A-7515-289-A	o	MOUNTED CIRCUIT BOARD (P), SG-171 (for DXC-537P)
207	A-7515-290-A	o	MOUNTED CIRCUIT BOARD (U), PR-143 (for DXC-537)
	A-7515-291-A	o	MOUNTED CIRCUIT BOARD (JEK), PR-143 (for DXC-537P)
208	A-7515-292-A	o	MOUNTED CIRCUIT BOARD (N), IE-28
	A-7515-292-B	o	MOUNTED CIRCUIT BOARD (N), IE-28 (S/N 10841 and higher) (for DXC-537)
	A-7515-293-A	o	MOUNTED CIRCUIT BOARD (P), IE-28
	A-7515-293-B	o	MOUNTED CIRCUIT BOARD (P), IE-28 (S/N 40691 and higher) (for DXC-537P)
209	X-3165-719-3	o	LID ASSY, SIDE SW
210	1-590-489-11	s	WIRE, FLAT TYPE (25 CORE)
211	3-167-445-01	s	KNOB, SWITCH
212	3-168-350-01	o	PLATE, SIDE PLATE
213	3-168-353-01	o	BRACKET (UPPER), AT
214	3-168-354-01	o	BRACKET (LOWER), AT
215	3-168-357-01	s	PAD, PLATE, SIDE
216	3-672-221-02	s	PACKING, CONTROL
217	3-672-253-11	o	RUBBER, CONDUCTIVE
218	3-678-607-02	o	LABEL, FILTER
219	3-701-822-00	o	HOLDER, WIRE
220	7-621-775-08	s	SCREW +B 2.6X3
221	7-623-923-11	s	WASHER 2.6, NYLONE
222	7-624-200-01	s	NUT, PUSH 1.5
223	7-627-450-58	s	SCREW, PRECISION -K 1.7X3
224	7-682-546-04	s	SCREW +B 3X5
225	7-682-548-09	s	SCREW +B 3X8
226	7-682-550-09	s	SCREW +B 3X12
227	7-682-553-09	s	SCREW +B 3X20
228	7-685-533-14	s	SCREW +BTP 2.6X6 TYPE2 N-S

CHASSIS (2) BLOCK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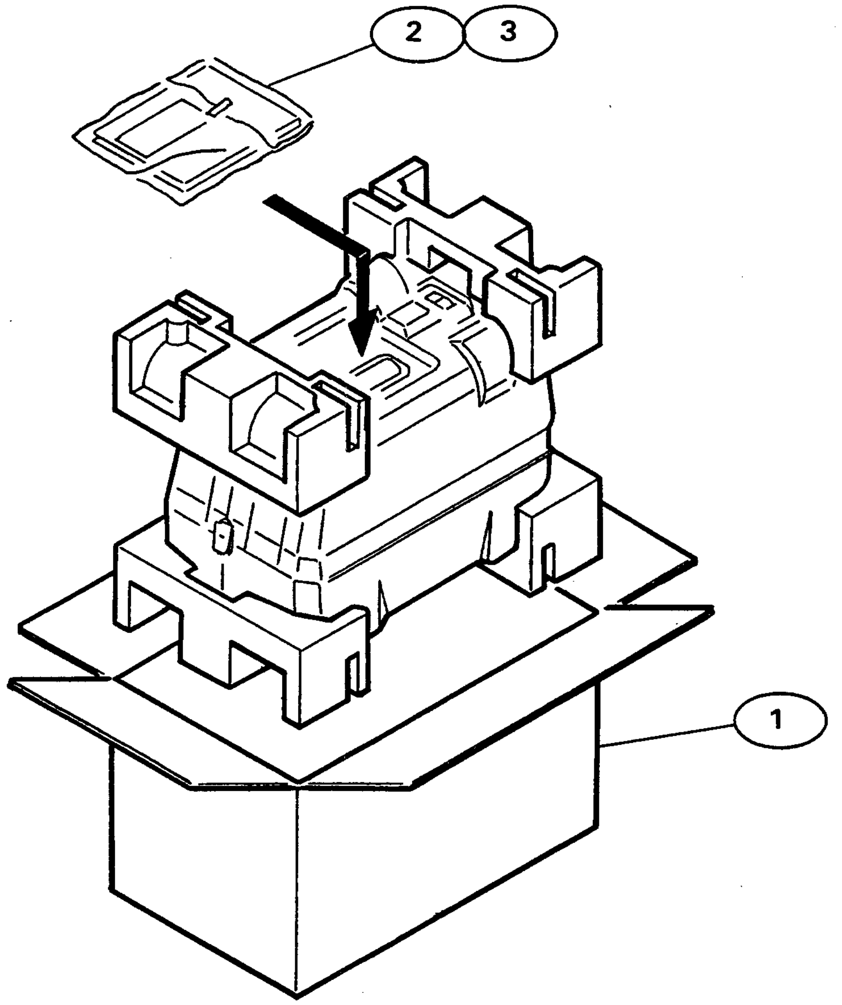
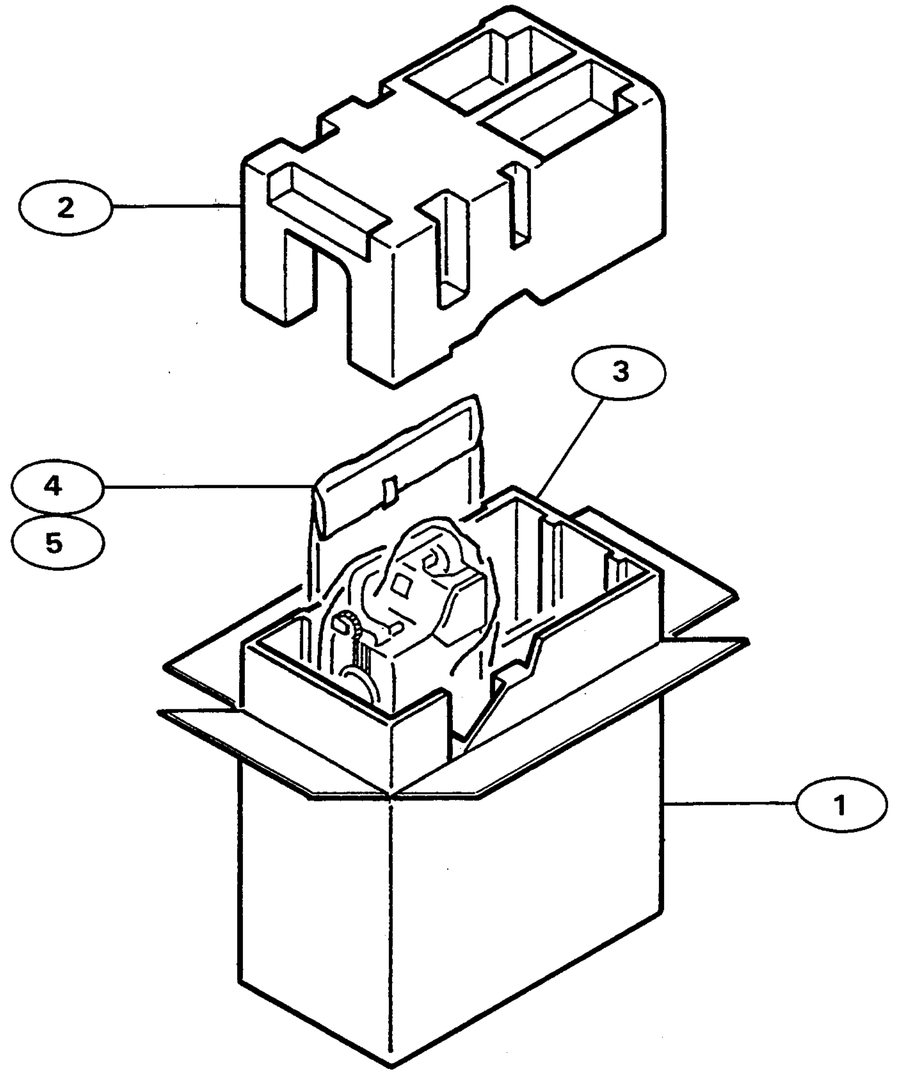
PACKING MATERIAL AND ACCESSORIES





DXC-537K

No.	Part No.	SP	Description
1	3-169-725-01	o	CARTON, INDIVIDUAL
2	3-752-841-23	s	MANUAL, INSTRUCTION "ENGLISH"
	3-752-841-33	s	MANUAL, INSTRUCTION "FRENCH"
3	3-764-889-01	o	CHART, ADJUSTMENT

DXC-537L

No.	Part No.	SP	Description
1	3-169-727-01	o	CARTON, INDIVIDUAL
2	3-752-841-23	s	MANUAL, INSTRUCTION "ENGLISH"
	3-752-841-33	s	MANUAL, INSTRUCTION "FRENCH"
3	3-764-889-01	o	CHART, ADJUSTMENT

DXC-537H

No.	Part No.	SP	Description
1	3-171-970-01	o	CARTON, INDIVIDUAL
2	3-171-972-01	o	CUSHION (UPPER)
3	3-171-973-01	o	CUSHION (LOWER)
4	3-752-841-23	s	MANUAL, INSTRUCTION "ENGLISH"
	3-752-841-33	s	MANUAL, INSTRUCTION "FRENCH"
5	3-764-889-01	o	CHART, ADJUSTMENT

EVW-537K

Q'ty	Part No.	SP	Description
1pc	3-169-721-01	o	INDIVIDUAL CARTON
1pc	3-698-917-01	o	BELT, SHOULDER
1pc	3-744-355-01	o	SHAFT, GUIDE
1pc	3-752-841-23	s	MANUAL, INSTRUCTION "ENGLISH"
1pc	3-752-841-33	s	MANUAL, INSTRUCTION "FRENCH"
1pc	3-752-874-01	s	MANUAL, INSTRUCTION "W,W"
1pc	3-764-889-01	o	CHART, ADJUSTMENT
2pcs	7-682-560-09	s	SCREW +B 4X6
2pcs	7-682-563-09	s	SCREW +B 4X12

ELECTRICAL PARTS

CAPACITOR, CHIP CERAMIC

Part No.	SP	Description
1-163-083-00	s	CAP, CHIP CERAMIC 1pF +-0.25pF 50V
1-163-085-00	s	CAP, CHIP CERAMIC 2pF +-0.25pF 50V
1-163-087-00	s	CAP, CHIP CERAMIC 4pF +-0.25pF 50V
1-163-089-00	s	CAP, CHIP CERAMIC 6pF +-0.5pF 50V
1-163-091-00	s	CAP, CHIP CERAMIC 8pF +-0.5pF 50V
1-163-093-00	s	CAP, CHIP CERAMIC 10pF 5% 50V
1-163-097-00	s	CAP, CHIP CERAMIC 15pF 5% 50V
1-163-101-00	s	CAP, CHIP CERAMIC 22pF 5% 50V
1-163-105-00	s	CAP, CHIP CERAMIC 33pF 5% 50V
1-163-109-00	s	CAP, CHIP CERAMIC 47pF 5% 50V
1-163-113-00	s	CAP, CHIP CERAMIC 68pF 5% 50V
1-163-117-00	s	CAP, CHIP CERAMIC 100pF 5% 50V
1-163-121-00	s	CAP, CHIP CERAMIC 150pF 5% 50V
1-163-125-00	s	CAP, CHIP CERAMIC 220pF 5% 50V
1-163-129-00	s	CAP, CHIP CERAMIC 330pF 5% 50V
1-163-133-00	s	CAP, CHIP CERAMIC 470pF 5% 50V
1-163-137-00	s	CAP, CHIP CERAMIC 680pF 5% 50V
1-163-141-00	s	CAP, CHIP CERAMIC 1000pF 5% 50V
1-163-145-00	s	CAP, CHIP CERAMIC 1500pF 10% 50V
1-164-161-11	s	CAP, CHIP CERAMIC 2200pF 10% 100V
1-164-182-11	s	CAP, CHIP CERAMIC 3300pF 10% 100V
1-163-017-00	s	CAP, CHIP CERAMIC 4700pF 10% 50V
1-163-019-00	s	CAP, CHIP CERAMIC 6800pF 10% 50V
1-164-232-11	s	CAP, CHIP CERAMIC 0.01 20% 100V
1-163-023-00	s	CAP, CHIP CERAMIC 0.015 10% 50V
1-163-034-00	s	CAP, CHIP CERAMIC 0.033 50V
1-163-035-00	s	CAP, CHIP CERAMIC 0.047 50V
1-163-036-00	s	CAP, CHIP CERAMIC 0.068 50V
1-163-038-00	s	CAP, CHIP CERAMIC 0.1 50V

RESISTOR, CHIP

Part No.	SP	Description
1-216-295-00	s	RES, CHIP 0 5% 1/10W
1-216-298-00	s	RES, CHIP 2.2 5% 1/10W
1-216-302-00	s	RES, CHIP 2.7 5% 1/10W
1-216-304-11	s	RES, CHIP 3.3 5% 1/10W
1-216-306-11	s	RES, CHIP 3.9 5% 1/10W
1-216-308-00	s	RES, CHIP 4.7 5% 1/10W
1-216-309-00	s	RES, CHIP 5.6 5% 1/10W
1-216-311-00	s	RES, CHIP 6.8 5% 1/10W
1-216-313-00	s	RES, CHIP 8.2 5% 1/10W
1-216-001-00	s	RES, CHIP 10 5% 1/10W
1-216-003-11	s	RES, CHIP 12 5% 1/10W
1-216-005-00	s	RES, CHIP 15 5% 1/10W
1-216-007-00	s	RES, CHIP 18 5% 1/10W
1-216-009-00	s	RES, CHIP 22 5% 1/10W
1-216-011-00	s	RES, CHIP 27 5% 1/10W
1-216-013-00	s	RES, CHIP 33 5% 1/10W
1-216-015-00	s	RES, CHIP 39 5% 1/10W
1-216-017-00	s	RES, CHIP 47 5% 1/10W
1-216-019-00	s	RES, CHIP 56 5% 1/10W
1-216-021-00	s	RES, CHIP 68 5% 1/10W
1-216-023-00	s	RES, CHIP 82 5% 1/10W
1-216-025-00	s	RES, CHIP 100 5% 1/10W
1-216-027-00	s	RES, CHIP 120 5% 1/10W
1-216-029-00	s	RES, CHIP 150 5% 1/10W
1-216-031-00	s	RES, CHIP 180 5% 1/10W
1-216-033-00	s	RES, CHIP 220 5% 1/10W
1-216-035-00	s	RES, CHIP 270 5% 1/10W
1-216-037-00	s	RES, CHIP 330 5% 1/10W
1-216-039-00	s	RES, CHIP 390 5% 1/10W
1-216-041-00	s	RES, CHIP 470 5% 1/10W
1-216-043-00	s	RES, CHIP 560 5% 1/10W
1-216-045-00	s	RES, CHIP 680 5% 1/10W
1-216-047-00	s	RES, CHIP 820 5% 1/10W
1-216-049-00	s	RES, CHIP 1k 5% 1/10W
1-216-051-00	s	RES, CHIP 1.2k 5% 1/10W
1-216-053-00	s	RES, CHIP 1.5k 5% 1/10W
1-216-055-00	s	RES, CHIP 1.8k 5% 1/10W
1-216-057-00	s	RES, CHIP 2.2k 5% 1/10W
1-216-059-00	s	RES, CHIP 2.7k 5% 1/10W
1-216-061-00	s	RES, CHIP 3.3k 5% 1/10W
1-216-063-00	s	RES, CHIP 3.9k 5% 1/10W
1-216-065-00	s	RES, CHIP 4.7k 5% 1/10W
1-216-067-00	s	RES, CHIP 5.6k 5% 1/10W
1-216-069-00	s	RES, CHIP 6.8k 5% 1/10W
1-216-071-00	s	RES, CHIP 8.2k 5% 1/10W
1-216-073-00	s	RES, CHIP 10k 5% 1/10W
1-216-075-00	s	RES, CHIP 12k 5% 1/10W
1-216-077-00	s	RES, CHIP 15k 5% 1/10W
1-216-079-00	s	RES, CHIP 18k 5% 1/10W
1-216-081-00	s	RES, CHIP 22k 5% 1/10W
1-216-083-00	s	RES, CHIP 27k 5% 1/10W
1-216-085-00	s	RES, CHIP 33k 5% 1/10W
1-216-748-11	s	RES, CHIP 39k 5% 1/10W
1-216-089-00	s	RES, CHIP 47k 5% 1/10W
1-216-091-00	s	RES, CHIP 56k 5% 1/10W

RESISTOR, CHIP

Part No.	SP	Description
1-216-093-00	s	RES, CHIP 68k 5% 1/10W
1-216-095-00	s	RES, CHIP 82k 5% 1/10W
1-216-097-00	s	RES, CHIP 100k 5% 1/10W
1-216-099-00	s	RES, CHIP 120k 5% 1/10W
1-216-101-00	s	RES, CHIP 150k 5% 1/10W
1-216-103-00	s	RES, CHIP 180k 5% 1/10W
1-216-105-00	s	RES, CHIP 220k 5% 1/10W
1-216-107-00	s	RES, CHIP 270k 5% 1/10W
1-216-109-00	s	RES, CHIP 330k 5% 1/10W
1-216-111-00	s	RES, CHIP 390k 5% 1/10W
1-216-113-00	s	RES, CHIP 470k 5% 1/10W
1-216-115-00	s	RES, CHIP 560k 5% 1/10W
1-216-117-00	s	RES, CHIP 680k 5% 1/10W
1-216-119-00	s	RES, CHIP 820k 5% 1/10W
1-216-121-00	s	RES, CHIP 1.0M 5% 1/10W
1-216-123-11	s	RES, CHIP 1.2M 5% 1/10W
1-216-125-00	s	RES, CHIP 1.5M 5% 1/10W
1-216-127-11	s	RES, CHIP 1.8M 5% 1/10W
1-216-129-00	s	RES, CHIP 2.2M 5% 1/10W
1-216-131-11	s	RES, CHIP 2.7M 5% 1/10W
1-216-133-00	s	RES, CHIP 3.3M 5% 1/10W

AT-59 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-282-A	o	MOUNTED CIRCUIT BOARD, AT-59
1pc	3-168-353-01	o	BRACKET (UPPER), AT
1pc	3-168-354-01	o	BRACKET (LOWER), AT
1pc	7-621-772-18	s	SCREW +B 2X4
3pcs	3-167-445-02	s	KNOB, SWITCH
C1	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C2	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C3	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C4	1-126-393-11	s	ELECT 33uF 20% 10V
C5	1-126-393-11	s	ELECT 33uF 20% 10V
C6	1-126-393-11	s	ELECT 33uF 20% 10V
C8	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C9	1-163-251-11	s	CERAMIC 100PF 5% 50V
C10	1-135-177-21	s	TANTALUM CHIP 1uF 10% 25V
C11	1-135-177-21	s	TANTALUM CHIP 1uF 10% 25V
C13	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C14	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C16	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C18	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C20	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C21	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C22	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C23	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C24	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C25	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C26	1-126-398-11	s	ELECT, CHIP 4.7uF 20% 35V
C27	1-126-398-11	s	ELECT, CHIP 4.7uF 20% 35V
C28	1-126-398-11	s	ELECT, CHIP 4.7uF 20% 35V
C29	1-126-398-11	s	ELECT, CHIP 4.7uF 20% 35V
C30	1-126-397-11	s	ELECT, CHIP 33uF 20% 25V
C34	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C35	1-126-401-11	s	ELECT, CHIP 1uF 20% 50V
C36	1-126-401-11	s	ELECT, CHIP 1uF 20% 50V
C39	1-126-401-11	s	ELECT, CHIP 1uF 20% 50V
C41	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C43	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C45	1-163-243-11	s	CERAMIC 47PF 5% 50V
C46	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V
C47	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V
C48	1-163-239-11	s	CERAMIC 33PF 5% 50V
C49	1-163-239-11	s	CERAMIC 33PF 5% 50V
C50	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C51	1-163-275-11	s	CERAMIC 0.001uF 5% 50V
C52	1-163-275-11	s	CERAMIC 0.001uF 5% 50V
C53	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C55	1-126-401-11	s	ELECT, CHIP 1uF 20% 50V
C62	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C63	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C64	1-163-239-11	s	CERAMIC 33PF 5% 50V
C67	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C68	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C69	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C70	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C71	1-163-243-11	s	CERAMIC 47PF 5% 50V
C78	1-126-397-11	s	ELECT, CHIP 33uF 20% 25V
CN1	1-580-834-11	s	CONNECTOR, FPC (ZIF) 25P
CN2	1-580-834-11	s	CONNECTOR, FPC (ZIF) 25P
CN3	1-506-470-11	o	CONNECTOR, 5P, MALE

(AT-59 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
CV1	1-141-368-11	s	CAP, CHIP TRIMMER
D2	8-719-800-76	s	DIODE 1SS226
D3	8-719-400-18	s	DIODE MA152WK
D5	8-719-400-18	s	DIODE MA152WK
D9	8-719-400-18	s	DIODE MA152WK
D10	8-719-400-18	s	DIODE MA152WK
D11	8-719-400-18	s	DIODE MA152WK
D12	8-719-974-76	s	DIODE HSM107S
D13	8-719-106-08	s	DIODE RD6.2M-B2
D14	8-719-400-18	s	DIODE MA152WK
D15	8-719-105-91	s	DIODE RD5.6M-B2
D16	8-719-400-18	s	DIODE MA152WK
D17	8-719-400-18	s	DIODE MA152WK
D21	8-719-800-76	s	DIODE 1SS226
D23	8-719-400-18	s	DIODE MA152WK
IC1	8-759-300-71	s	IC MC14053BF
IC2	8-759-101-12	s	IC UPC311G2
IC3	8-759-981-65	s	IC LM2903M
IC4	8-759-906-54	s	IC TL064CNS
IC5	8-759-300-71	s	IC MC14053BF
IC7	8-759-906-54	s	IC TL064CNS
IC8	8-759-009-10	s	IC MC14069UBF
IC9	8-759-323-64	s	IC HD6305Y0E27F
IC10	8-759-977-80	s	IC MB88342PF
IC11	8-759-977-80	s	IC MB88342PF
IC12	8-759-009-05	s	IC MC14051BF
IC13	8-759-008-74	s	IC MC14001BF
IC14	8-759-906-54	s	IC TL064CNS
IC15	8-759-906-54	s	IC TL064CNS
IC16	8-759-112-72	s	IC UPD6142G-101
IC17	8-759-906-54	s	IC TL064CNS
IC18	8-759-300-71	s	IC MC14053BF
IC19	8-759-633-29	s	IC M6M80011L
IC20	8-759-009-10	s	IC MC14069UBF
IC21	8-759-918-65	s	IC TL7700CPS
L1	1-408-797-11	s	CHIP 470uH
L2	1-408-797-11	s	CHIP 470uH
L4	1-408-783-00	s	CHIP 33uH
L5	1-408-786-21	s	INDUCTOR CHIP 56UH
L6	1-408-783-00	s	CHIP 33uH
Q1	8-729-216-22	s	TRANSISTOR 2SA1162
Q2	8-729-216-22	s	TRANSISTOR 2SA1162
Q3	8-729-216-22	s	TRANSISTOR 2SA1162
Q4	8-729-100-66	s	TRANSISTOR 2SC1623
Q5	8-729-402-19	s	TRANSISTOR XN6501
Q6	8-729-402-19	s	TRANSISTOR XN6501
Q7	8-729-100-66	s	TRANSISTOR 2SC1623
Q8	8-729-402-84	s	TRANSISTOR XN4601
Q9	8-729-402-84	s	TRANSISTOR XN4601
Q10	8-729-141-53	s	TRANSISTOR 2SK94-X2X3X4
Q11	8-729-100-66	s	TRANSISTOR 2SC1623
Q12	8-729-402-19	s	TRANSISTOR XN6501
Q13	8-729-403-32	s	TRANSISTOR XN6534
Q14	8-729-402-84	s	TRANSISTOR XN4601
Q16	8-729-402-84	s	TRANSISTOR XN4601
Q17	8-729-141-53	s	TRANSISTOR 2SK94-X2X3X4
Q18	8-729-800-37	s	TRANSISTOR 2SD1048-X7
Q19	8-729-807-87	s	TRANSISTOR 2SB1295-UL6

Please see pages D-13 and D-14 for the part numbers of capacitors and resistors that are not listed in the parts list.

(AT-59 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q20	8-729-402-19	s	TRANSISTOR XN6501
Q21	8-729-402-19	s	TRANSISTOR XN6501
Q22	8-729-100-66	s	TRANSISTOR 2SC1623
Q24	8-729-402-19	s	TRANSISTOR XN6501
Q25	8-729-100-66	s	TRANSISTOR 2SC1623
Q26	8-729-175-73	s	TRANSISTOR 2SC2757
R58	1-216-697-11	s	METAL, CHIP 82K 0.5% 1/10W
R65	1-216-697-11	s	METAL, CHIP 82K 0.5% 1/10W
R111	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R112	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R114	1-216-663-11	s	METAL, CHIP 3.3K 0.5% 1/10W
R115	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
R138	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R139	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R140	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R141	1-216-685-11	s	METAL, CHIP 27K 0.5% 1/10W
R142	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R146	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R181	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R182	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R191	1-216-663-11	s	METAL, CHIP 3.3K 0.5% 1/10W
RB1	1-231-387-00	s	COMPOSITION CIRCUIT BLOCK
RV1	1-241-446-21	s	RES, ADJ, CERMET 2K
RV2	1-241-449-21	s	RES, ADJ, CERMET 20K
RV3	1-241-446-21	s	RES, ADJ, CERMET 2K
RV4	1-237-518-21	s	RES, ADJ, METAL 10K
RV5	1-237-518-21	s	RES, ADJ, METAL 10K
S1	1-570-854-11	s	SWITCH, SLIDE
S2	1-570-857-11	s	SWITCH, SLIDE
S3	1-554-174-00	s	SWITCH, TACTILE
S4	1-570-865-11	s	SWITCH, SLIDE
S5	1-570-836-11	s	SWITCH, SLIDE
X1	1-567-192-11	s	RESONATOR, CERAMIC 4.00MHz

CN-439 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-638-047-12	o	PC BOARD, CN-439
CN1	1-566-260-21	o	CONNECTOR, BOARD TO BOARD 14P
CN2	1-566-260-21	o	CONNECTOR, BOARD TO BOARD 14P
CN3	1-566-098-11	o	PIN, BOARD TO BOARD 14P
CN4	1-566-098-11	o	PIN, BOARD TO BOARD 14P

EN-95 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-285-A	o	MOUNTED CIRCUIT BOARD (U), EN-95
1pc	7-682-546-04	s	SCREW +B 3X5
1pc	2-280-622-41	o	SUPPORT (M3), HEXAGON
C1	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C2	1-163-239-11	s	CERAMIC 33PF 5% 50V
C3	1-163-239-11	s	CERAMIC 33PF 5% 50V
C4	1-126-393-11	s	ELECT 33uF 20% 10V
C5	1-135-158-21	s	TANTALUM 15uF 10% 4V
C6	1-135-149-21	s	TANTALUM, CHIP 2.2uF 10% 10V
C7	1-163-251-11	s	CERAMIC 100PF 5% 50V
C8	1-135-181-21	s	TANTAL 4.7uF 10% 6.3V
C9	1-163-239-11	s	CERAMIC 33PF 5% 50V
C10	1-163-239-11	s	CERAMIC 33PF 5% 50V
C11	1-126-393-11	s	ELECT 33uF 20% 10V
C12	1-135-149-21	s	TANTALUM, CHIP 2.2uF 10% 10V
C13	1-163-251-11	s	CERAMIC 100PF 5% 50V
C14	1-135-181-21	s	TANTAL 4.7uF 10% 6.3V
C15	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C21	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C22	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C23	1-163-224-11	s	CERAMIC 7PF 0.25PF 50V
C24	1-126-393-11	s	ELECT 33uF 20% 10V
C25	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C26	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C28	1-163-220-11	s	CERAMIC 3PF 0.25PF 50V
C30	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C31	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C33	1-163-239-11	s	CERAMIC 33PF 5% 50V
C34	1-163-115-00	s	CERAMIC, CHIP 82PF 5% 50V
C36	1-126-393-11	s	ELECT 33uF 20% 10V
C37	1-126-393-11	s	ELECT 33uF 20% 10V
C44	1-126-176-11	s	ELECT 220uF 20% 10V
C46	1-126-393-11	s	ELECT 33uF 20% 10V
C48	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C50	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C52	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C53	1-163-251-11	s	CERAMIC 100PF 5% 50V
C55	1-163-239-11	s	CERAMIC 33PF 5% 50V
C57	1-135-162-21	s	TANTAL 33uF 10% 6.3V
C58	1-163-235-11	s	CERAMIC 22PF 5% 50V
C59	1-163-243-11	s	CERAMIC 47PF 5% 50V
C60	1-163-227-11	s	CERAMIC 10PF 5% 50V
C61	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C64	1-163-251-11	s	CERAMIC 100PF 5% 50V
C65	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C66	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C67	1-126-393-11	s	ELECT 33uF 20% 10V
C70	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C71	1-126-393-11	s	ELECT 33uF 20% 10V
C72	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C76	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C77	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C78	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C80	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C82	1-163-243-11	s	CERAMIC 47PF 5% 50V
C83	1-163-243-11	s	CERAMIC 47PF 5% 50V
C84	1-163-243-11	s	CERAMIC 47PF 5% 50V
C85	1-163-243-11	s	CERAMIC 47PF 5% 50V

Please see pages D-13 and D-14 for the part numbers of capacitors and resistors that are not listed in the parts list.

(EN-95 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C86	1-163-113-00	s	CERAMIC 68PF 5% 50V
C87	1-135-216-11	s	TANTAL 10uF 20% 10V
C90	1-135-216-11	s	TANTAL 10uF 20% 10V
C91	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
CN1	1-565-780-11	o	CONNECTOR, TX(P.L)(PC BOARD)50P
D1	8-719-800-76	s	DIODE 1SS226
D3	8-719-800-76	s	DIODE 1SS226
DL1	1-415-813-11	s	DELAY LINE
FL1	1-235-161-00	s	FILTER, BANDPASS 3.58MHz
IC1	8-759-906-59	s	IC CX22017
IC2	8-759-925-74	s	IC SN74HC04ANS
IC4	8-759-981-65	s	IC LM2903M
IC5	8-759-907-21	s	IC CX-7969
IC6	8-759-911-77	s	IC CX-7968A
IC8	8-759-234-20	s	IC TC7S08F
IC9	8-759-710-24	s	IC NJM319M
IC10	8-759-209-15	s	IC TC4SU69F
L1	1-408-785-21	s	CHIP 47uH
L2	1-408-795-21	s	CHIP 330uH
L3	1-408-795-21	s	CHIP 330uH
L4	1-408-785-21	s	CHIP 47uH
L6	1-408-785-21	s	CHIP 47uH
L8	1-408-785-21	s	CHIP 47uH
L9	1-408-788-21	s	INDUCTOR CHIP 82UH
L10	1-408-783-00	s	CHIP 33uH
L12	1-408-785-21	s	CHIP 47uH
L14	1-408-783-00	s	CHIP 33uH
LV1	1-408-844-00	s	INDUCTOR, VAR, 22uH
Q1	8-729-402-19	s	TRANSISTOR XN6501
Q2	8-729-402-19	s	TRANSISTOR XN6501
Q4	8-729-402-19	s	TRANSISTOR XN6501
Q5	8-729-402-19	s	TRANSISTOR XN6501
Q7	8-729-402-19	s	TRANSISTOR XN6501
Q8	8-729-402-19	s	TRANSISTOR XN6501
Q9	8-729-402-19	s	TRANSISTOR XN6501
Q10	8-729-122-63	s	TRANSISTOR 2SA1226
Q11	8-729-402-19	s	TRANSISTOR XN6501
Q12	8-729-402-78	s	TRANSISTOR XN6401
Q13	8-729-402-84	s	TRANSISTOR XN4601
Q14	8-729-216-22	s	TRANSISTOR 2SA1162
Q15	8-729-100-66	s	TRANSISTOR 2SC1623
Q16	8-729-403-32	s	TRANSISTOR XN6534
Q17	8-729-403-32	s	TRANSISTOR XN6534
Q18	8-729-216-22	s	TRANSISTOR 2SA1162
Q19	8-729-402-19	s	TRANSISTOR XN6501
Q20	8-729-402-78	s	TRANSISTOR XN6401
Q22	8-729-403-32	s	TRANSISTOR XN6534
Q24	8-729-402-19	s	TRANSISTOR XN6501
Q25	8-729-402-78	s	TRANSISTOR XN6401
Q27	8-729-403-29	s	TRANSISTOR XN6435
Q28	8-729-402-84	s	TRANSISTOR XN4601
Q29	8-729-403-29	s	TRANSISTOR XN6435
Q30	8-729-402-78	s	TRANSISTOR XN6401
Q31	8-729-402-78	s	TRANSISTOR XN6401
Q32	8-729-402-84	s	TRANSISTOR XN4601

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Ref. No. or Q'ty	Part No.	SP	Description
Q33	8-729-216-22	s	TRANSISTOR 2SA1162
Q34	8-729-402-19	s	TRANSISTOR XN6501
Q35	8-729-402-19	s	TRANSISTOR XN6501
Q36	8-729-216-22	s	TRANSISTOR 2SA1162
Q37	8-729-402-78	s	TRANSISTOR XN6401
Q38	8-729-402-19	s	TRANSISTOR XN6501
Q39	8-729-402-19	s	TRANSISTOR XN6501
Q40	8-729-216-22	s	TRANSISTOR 2SA1162
Q41	8-729-402-78	s	TRANSISTOR XN6401
Q42	8-729-402-19	s	TRANSISTOR XN6501
Q43	8-729-402-19	s	TRANSISTOR XN6501
Q44	8-729-216-22	s	TRANSISTOR 2SA1162
Q45	8-729-402-78	s	TRANSISTOR XN6401
Q46	8-729-402-19	s	TRANSISTOR XN6501
Q47	8-729-402-84	s	TRANSISTOR XN4601
Q48	8-729-100-66	s	TRANSISTOR 2SC1623
Q49	8-729-100-66	s	TRANSISTOR 2SC1623
Q50	8-729-402-84	s	TRANSISTOR XN4601
R1	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R2	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R3	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R5	1-216-661-11	s	METAL, CHIP 2.7K 0.5% 1/10W
R6	1-241-444-11	s	RES, ADJ, CERMET 500
R9	1-216-639-11	s	METAL, CHIP 330 0.5% 1/10W
R12	1-241-444-11	s	RES, ADJ, CERMET 500
R13	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R14	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R15	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R16	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R17	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R18	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R21	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R27	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R28	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R29	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R33	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R36	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R37	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R38	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R42	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R43	1-216-681-11	s	METAL, CHIP 18K 0.5% 1/10W
R47	1-216-623-11	s	METAL, CHIP 68 0.5% 1/10W
R48	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R49	1-216-660-11	s	METAL, CHIP 2.4K 0.5% 1/10W
R51	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R66	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R67	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R69	1-216-663-11	s	METAL, CHIP 3.3K 0.5% 1/10W
R71	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R72	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R73	1-216-641-11	s	METAL, CHIP 390 0.5% 1/10W
R76	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R77	1-216-669-11	s	METAL, CHIP 5.6K 0.5% 1/10W
R78	1-216-661-11	s	METAL, CHIP 2.7K 0.5% 1/10W
R89	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R90	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R93	1-216-641-11	s	METAL, CHIP 390 0.5% 1/10W
R94	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W

Please see pages D-13 and D-14 for the part numbers of capacitors and resistors that are not listed in the parts list.

(EN-95 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R95	1-216-693-11	s	METAL, CHIP 56K 0.5% 1/10W
R96	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R97	1-216-687-11	s	METAL, CHIP 33K 0.5% 1/10W
R104	1-216-649-11	s	METAL, CHIP 820 0.5% 1/10W
R105	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R107	1-216-673-11	s	METAL, CHIP 8.2K 0.5% 1/10W
R108	1-216-660-11	s	METAL, CHIP 2.4K 0.5% 1/10W
R109	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R110	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R111	1-216-673-11	s	METAL, CHIP 8.2K 0.5% 1/10W
R112	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R115	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R118	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R119	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R123	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
R127	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R128	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R139	1-216-619-11	s	METAL, CHIP 47 0.5% 1/10W
R144	1-216-685-11	s	METAL, CHIP 27K 0.5% 1/10W
R145	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R146	1-216-676-11	s	METAL, CHIP 11K 0.5% 1/10W
R147	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R153	1-216-623-11	s	METAL, CHIP 68 0.5% 1/10W
R159	1-216-685-11	s	METAL, CHIP 27K 0.5% 1/10W
R160	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R161	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R162	1-216-676-11	s	METAL, CHIP 11K 0.5% 1/10W
R169	1-216-623-11	s	METAL, CHIP 68 0.5% 1/10W
R173	1-216-685-11	s	METAL, CHIP 27K 0.5% 1/10W
R174	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R175	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R176	1-216-676-11	s	METAL, CHIP 11K 0.5% 1/10W
R183	1-216-623-11	s	METAL, CHIP 68 0.5% 1/10W
R202	1-216-681-11	s	METAL, CHIP 18K 0.5% 1/10W
R203	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R204	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R231	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R233	1-216-685-11	s	METAL, CHIP 27K 0.5% 1/10W
R240	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R241	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
RV1	1-241-263-11	s	RES, ADJ, CERMET 5K
RV2	1-241-445-21	s	RES, ADJ, CERMET 1K
RV4	1-241-263-11	s	RES, ADJ, CERMET 5K
RV5	1-241-445-21	s	RES, ADJ, CERMET 1K
RV7	1-241-262-11	s	RES, ADJ, CERMET 2K
RV8	1-241-260-11	s	RES, ADJ, CERMET 500
RV9	1-241-265-11	s	RES, ADJ, CERMET 20K
RV10	1-241-447-21	s	RES, ADJ, CERMET 5K
RV11	1-241-261-11	s	RES, ADJ, CERMET 1K
RV13	1-241-449-21	s	RES, ADJ, CERMET 20K
RV14	1-241-449-21	s	RES, ADJ, CERMET 20K
RV15	1-241-449-21	s	RES, ADJ, CERMET 20K
RV16	1-241-264-11	s	RES, ADJ, CERMET 10K
RV17	1-241-260-11	s	RES, ADJ, CERMET 500
RV18	1-241-260-11	s	RES, ADJ, CERMET 500
S1	1-570-853-11	s	SWITCH, SLIDE
S2	1-570-863-11	s	SWITCH, SLIDE

IE-28 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-292-B	o	MOUNTED CIRCUIT BOARD, IE-28 (N)
1pc	3-172-381-01	o	PLATE (IE), SHIELD
C1	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C3	1-163-227-11	s	CERAMIC 10PF 5% 50V
C4	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C6	1-135-160-21	s	TANTAL 15uF 10% 16V
C7	1-135-160-21	s	TANTAL 15uF 10% 16V
C8	1-163-251-11	s	CERAMIC 100PF 5% 50V
C10	1-163-227-11	s	CERAMIC 10PF 5% 50V
C12	1-135-216-11	s	TANTAL 10uF 20% 10V
C16	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C17	1-135-216-11	s	TANTAL 10uF 20% 10V
C19	1-135-216-11	s	TANTAL 10uF 20% 10V
C25	1-163-239-11	s	CERAMIC 33PF 5% 50V
C26	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C27	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V
C28	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C31	1-163-243-11	s	CERAMIC 47PF 5% 50V
C32	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V
C33	1-163-239-11	s	CERAMIC 33PF 5% 50V
C39	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C41	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C42	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C46	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C47	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C48	1-163-251-11	s	CERAMIC 100PF 5% 50V
C50	1-135-177-21	s	TANTALUM CHIP 1uF 10% 25V
C51	1-135-177-21	s	TANTALUM CHIP 1uF 10% 25V
C52	1-135-177-21	s	TANTALUM CHIP 1uF 10% 25V
C53	1-135-177-21	s	TANTALUM CHIP 1uF 10% 25V
C56	1-135-216-11	s	TANTAL 10uF 20% 10V
C62	1-163-239-11	s	CERAMIC 33PF 5% 50V
C63	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C65	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C66	1-163-239-11	s	CERAMIC 33PF 5% 50V
C68	1-163-239-11	s	CERAMIC 33PF 5% 50V
C74	1-135-145-11	s	TANTALUM, CHIP 0.47uF 10% 35V
C75	1-135-145-11	s	TANTALUM, CHIP 0.47uF 10% 35V
C76	1-135-145-11	s	TANTALUM, CHIP 0.47uF 10% 35V
C77	1-135-145-11	s	TANTALUM, CHIP 0.47uF 10% 35V
C78	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C82	1-135-216-11	s	TANTAL 10uF 20% 10V
C83	1-135-216-11	s	TANTAL 10uF 20% 10V
C85	1-163-239-11	s	CERAMIC 33PF 5% 50V
C86	1-163-239-11	s	CERAMIC 33PF 5% 50V
C90	1-135-216-11	s	TANTAL 10uF 20% 10V
C91	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V
C92	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V
C93	1-135-160-21	s	TANTAL 15uF 10% 16V
C94	1-135-216-11	s	TANTAL 10uF 20% 10V
C95	1-135-177-21	s	TANTALUM CHIP 1uF 10% 25V
C97	1-135-177-21	s	TANTALUM CHIP 1uF 10% 25V
C101	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C102	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C104	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C105	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C106	1-163-220-11	s	CERAMIC 3PF 0.25PF 50V
C107	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V

Please see pages D-13 and D-14 for the part numbers of capacitors and resistors that are not listed in the parts list.

(IE-28 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C108	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C109	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C111	1-135-166-21	s	TANTALUM, CHIP 47uF 10% 10V
C112	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C113	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V
C114	1-135-160-21	s	TANTAL 15uF 10% 16V
C115	1-163-239-11	s	CERAMIC 33PF 5% 50V
C116	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C117	1-135-216-11	s	TANTAL 10uF 20% 10V
C118	1-135-216-11	s	TANTAL 10uF 20% 10V
C119	1-163-251-11	s	CERAMIC 100PF 5% 50V
C120	1-135-216-11	s	TANTAL 10uF 20% 10V
C121	1-135-216-11	s	TANTAL 10uF 20% 10V
C122	1-163-235-11	s	CERAMIC 22PF 5% 50V
CN2	1-566-270-21	o	CONNECTOR, BOARD TO BOARD 8P
CN3	1-566-276-21	o	CONNECTOR, BOARD TO BOARD 14P
CV1	1-141-370-11	s	CAP, CHIP TRIMMER
CV2	1-141-311-11	s	CAR, TRIMMER 20PF
CV3	1-141-311-11	s	CAR, TRIMMER 20PF
D1	8-719-800-76	s	DIODE 1SS226
D2	8-719-800-76	s	DIODE 1SS226
D3	8-719-800-76	s	DIODE 1SS226
D4	8-719-101-98	s	DIODE 1SS97-0
D5	8-719-101-98	s	DIODE 1SS97-0
DL1	1-415-814-11	s	DELAY LINE
DL2	1-415-502-11	s	DELAY LINE 100nS
DL3	1-415-433-11	s	DELAY LINE 30nS
IC1	8-759-981-51	s	IC RC1496M
IC5	8-759-981-51	s	IC RC1496M
IC6	8-759-300-71	s	IC MC14053BF
IC7	8-759-242-64	s	IC TC4W53F
IC8	8-759-200-71	s	IC TC4017BF
IC9	8-759-200-84	s	IC TC4081BF
IC10	8-759-908-17	s	IC TL082CPS
IC11	8-759-300-71	s	IC MC14053BF
IC12	8-759-906-53	s	IC TL062CPS
IC13	8-759-242-64	s	IC TC4W53F
L1	1-408-777-00	s	CHIP 10uH
L2	1-408-785-21	s	CHIP 47uH
L3	1-410-717-31	s	INDUCTOR, CHIP 100uH
L4	1-408-785-21	s	CHIP 47uH
L5	1-410-703-21	s	INDUCTOR, CHIP 6.8uH
L6	1-410-703-21	s	INDUCTOR, CHIP 6.8uH
L7	1-408-785-21	s	CHIP 47uH
L8	1-410-711-31	s	INDUCTOR CHIP 33UH
L9	1-410-711-31	s	INDUCTOR CHIP 33UH
L10	1-408-797-11	s	CHIP 470uH
L11	1-408-785-21	s	CHIP 47uH
L12	1-408-785-21	s	CHIP 47uH
L13	1-408-781-00	s	CHIP 22uH
Q1	8-729-100-66	s	TRANSISTOR 2SC1623
Q2	8-729-100-66	s	TRANSISTOR 2SC1623
Q3	8-729-175-73	s	TRANSISTOR 2SC2757
Q4	8-729-216-22	s	TRANSISTOR 2SA1162
Q5	8-729-216-22	s	TRANSISTOR 2SA1162
Q6	8-729-175-73	s	TRANSISTOR 2SC2757
Q7	8-729-175-73	s	TRANSISTOR 2SC2757

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Ref. No. or Q'ty	Part No.	SP	Description
Q8	8-729-122-63	s	TRANSISTOR 2SA1226
Q9	8-729-175-73	s	TRANSISTOR 2SC2757
Q10	8-729-122-63	s	TRANSISTOR 2SA1226
Q11	8-729-175-73	s	TRANSISTOR 2SC2757
Q12	8-729-175-73	s	TRANSISTOR 2SC2757
Q13	8-729-109-44	s	TRANSISTOR 2SK94
Q14	8-729-175-73	s	TRANSISTOR 2SC2757
Q15	8-729-175-73	s	TRANSISTOR 2SC2757
Q16	8-729-122-63	s	TRANSISTOR 2SA1226
Q17	8-729-122-63	s	TRANSISTOR 2SA1226
Q18	8-729-122-63	s	TRANSISTOR 2SA1226
Q19	8-729-175-73	s	TRANSISTOR 2SC2757
Q21	8-729-175-73	s	TRANSISTOR 2SC2757
Q22	8-729-100-66	s	TRANSISTOR 2SC1623
Q23	8-729-216-22	s	TRANSISTOR 2SA1162
Q24	8-729-100-66	s	TRANSISTOR 2SC1623
Q25	8-729-100-66	s	TRANSISTOR 2SC1623
Q26	8-729-109-44	s	TRANSISTOR 2SK94
Q27	8-729-109-44	s	TRANSISTOR 2SK94
Q28	8-729-175-73	s	TRANSISTOR 2SC2757
Q29	8-729-175-73	s	TRANSISTOR 2SC2757
Q30	8-729-122-63	s	TRANSISTOR 2SA1226
Q31	8-729-175-73	s	TRANSISTOR 2SC2757
Q32	8-729-122-63	s	TRANSISTOR 2SA1226
Q33	8-729-175-73	s	TRANSISTOR 2SC2757
Q34	8-729-175-73	s	TRANSISTOR 2SC2757
Q35	8-729-109-44	s	TRANSISTOR 2SK94
Q36	8-729-175-73	s	TRANSISTOR 2SC2757
Q37	8-729-175-73	s	TRANSISTOR 2SC2757
Q38	8-729-122-63	s	TRANSISTOR 2SA1226
Q39	8-729-122-63	s	TRANSISTOR 2SA1226
Q41	8-729-175-73	s	TRANSISTOR 2SC2757
Q42	8-729-175-73	s	TRANSISTOR 2SC2757
Q43	8-729-100-66	s	TRANSISTOR 2SC1623
Q44	8-729-109-44	s	TRANSISTOR 2SK94
Q45	8-729-109-44	s	TRANSISTOR 2SK94
Q46	8-729-109-44	s	TRANSISTOR 2SK94
Q47	8-729-100-66	s	TRANSISTOR 2SC1623
Q48	8-729-100-66	s	TRANSISTOR 2SC1623
Q49	8-729-100-66	s	TRANSISTOR 2SC1623
Q50	8-729-100-66	s	TRANSISTOR 2SC1623
Q51	8-729-100-66	s	TRANSISTOR 2SC1623
Q52	8-729-100-66	s	TRANSISTOR 2SC1623
Q53	8-729-100-66	s	TRANSISTOR 2SC1623
Q54	8-729-100-66	s	TRANSISTOR 2SC1623
Q55	8-729-100-66	s	TRANSISTOR 2SC1623
Q56	8-729-100-66	s	TRANSISTOR 2SC1623
Q57	8-729-175-73	s	TRANSISTOR 2SC2757
Q58	8-729-109-44	s	TRANSISTOR 2SK94
Q59	8-729-216-22	s	TRANSISTOR 2SA1162
Q61	8-729-216-22	s	TRANSISTOR 2SA1162
Q62	8-729-100-66	s	TRANSISTOR 2SC1623
Q63	8-729-216-22	s	TRANSISTOR 2SA1162
Q64	8-729-216-22	s	TRANSISTOR 2SA1162
Q65	8-729-122-63	s	TRANSISTOR 2SA1226
Q66	8-729-175-73	s	TRANSISTOR 2SC2757
Q67	8-729-175-73	s	TRANSISTOR 2SC2757
Q68	8-729-175-73	s	TRANSISTOR 2SC2757
Q69	8-729-175-73	s	TRANSISTOR 2SC2757

Please see pages D-13 and D-14 for the part numbers of capacitors and resistors that are not listed in the parts list.

(IE-28 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q70	8-729-175-73	s	TRANSISTOR 2SC2757
Q71	8-729-100-66	s	TRANSISTOR 2SC1623
Q72	8-729-216-22	s	TRANSISTOR 2SA1162
Q73	8-729-175-73	s	TRANSISTOR 2SC2757
Q74	8-729-175-73	s	TRANSISTOR 2SC2757
Q75	8-729-175-73	s	TRANSISTOR 2SC2757
Q76	8-729-175-73	s	TRANSISTOR 2SC2757
Q77	8-729-175-73	s	TRANSISTOR 2SC2757
R5	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R6	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R10	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R13	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R14	1-216-674-11	s	METAL, CHIP 9.1K 0.5% 1/10W
R15	1-216-663-11	s	METAL, CHIP 3.3K 0.5% 1/10W
R17	1-216-647-11	s	METAL, CHIP 680 0.5% 1/10W
R21	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R22	1-216-641-11	s	METAL, CHIP 390 0.5% 1/10W
R29	1-216-623-11	s	METAL, CHIP 68 0.5% 1/10W
R30	1-216-623-11	s	METAL, CHIP 68 0.5% 1/10W
R31	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R35	1-216-647-11	s	METAL, CHIP 680 0.5% 1/10W
R44	1-216-637-11	s	METAL, CHIP 270 0.5% 1/10W
R47	1-216-637-11	s	METAL, CHIP 270 0.5% 1/10W
R50	1-216-663-11	s	METAL, CHIP 3.3K 0.5% 1/10W
R62	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
R63	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R76	1-216-623-11	s	METAL, CHIP 68 0.5% 1/10W
R77	1-216-623-11	s	METAL, CHIP 68 0.5% 1/10W
R78	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R83	1-216-647-11	s	METAL, CHIP 680 0.5% 1/10W
R91	1-216-637-11	s	METAL, CHIP 270 0.5% 1/10W
R93	1-216-637-11	s	METAL, CHIP 270 0.5% 1/10W
R94	1-216-671-11	s	METAL, CHIP 6.8K 0.5% 1/10W
R96	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R99	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
R101	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R102	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R112	1-216-669-11	s	METAL, CHIP 5.6K 0.5% 1/10W
R113	1-216-661-11	s	METAL, CHIP 2.7K 0.5% 1/10W
R114	1-216-669-11	s	METAL, CHIP 5.6K 0.5% 1/10W
R115	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R125	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R126	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R130	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R158	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R159	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R168	1-216-640-11	s	METAL, CHIP 360 0.5% 1/10W
R181	1-216-640-11	s	METAL, CHIP 360 0.5% 1/10W
R182	1-216-640-11	s	METAL, CHIP 360 0.5% 1/10W
R188	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R189	1-216-671-11	s	METAL, CHIP 6.8K 0.5% 1/10W
RV1	1-241-450-21	s	RES, ADJ, CERMET 50K
RV2	1-241-450-21	s	RES, ADJ, CERMET 50K
RV3	1-241-262-11	s	RES, ADJ, CERMET 2K
RV4	1-241-445-21	s	RES, ADJ, CERMET 1K
RV5	1-241-263-11	s	RES, ADJ, CERMET 5K
RV6	1-241-444-21	s	RES, ADJ, CERMET 500
RV7	1-241-446-21	s	RES, ADJ, CERMET 2K

Please see pages D-13 and D-14 for the part numbers of capacitors and resistors that are not listed in the parts list.

(IE-28 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
S1	1-571-259-11	s	SWITCH, SLIDE

MB-307 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-283-A	o	MOUNTED CIRCUIT BOARD (N), MB-307
C1	1-135-070-00	s	TANTALUM, CHIP 0.1uF 10% 35V
C2	1-135-157-21	s	TANTAL 10uF 10% 6.3V
C3	1-135-180-21	s	TANTAL 3.3uF 20% 6.3V
C4	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V
C5	1-135-216-11	s	TANTAL 10uF 20% 10V
C6	1-163-227-11	s	CERAMIC 10PF 5% 50V
C7	1-163-227-11	s	CERAMIC 10PF 5% 50V
C8	1-163-031-11	s	CERAMIC 0.01uF 50V
C9	1-135-216-11	s	TANTAL 10uF 20% 10V
C10	1-163-251-11	s	CERAMIC 100PF 5% 50V
C12	1-135-212-21	s	TANTAL 2.2uF 10% 35V
C13	1-124-910-11	s	ELECT 47uF 20% 50V
C14	1-163-251-11	s	CERAMIC 100PF 5% 50V
C16	1-135-155-21	s	TANTAL CHIP 4.7uF 10% 16V
C17	1-124-478-11	s	ELECT 100uF 20% 25V
C18	1-163-251-11	s	CERAMIC 100PF 5% 50V
C19	1-135-070-00	s	TANTALUM, CHIP 0.1uF 10% 35V
C20	1-124-584-00	s	ELECT 100uF 20% 10V
C21	1-135-155-21	s	TANTAL CHIP 4.7uF 10% 16V
C22	1-135-212-21	s	TANTAL 2.2uF 10% 35V
CN1	1-565-781-11	o	CONNECTOR, TX(S.S) (PC BOARD) 50P
CN2	1-565-781-11	o	CONNECTOR, TX(S.S) (PC BOARD) 50P
CN3	1-562-728-11	o	CONNECTOR, MULTI 50P
CN4	1-506-467-11	o	CONNECTOR, 2P, MALE
CN5	1-506-475-11	o	CONNECTOR, 10P, MALE
CN6	1-506-472-11	o	CONNECTOR, 7P, MALE
CN7	1-506-467-11	o	CONNECTOR, 2P, MALE
CN8	1-506-467-11	o	CONNECTOR, 2P, MALE
CN9	1-506-467-11	o	CONNECTOR, 2P, MALE
CN10	1-506-472-11	o	CONNECTOR, 7P, MALE
CN11	1-506-471-11	o	CONNECTOR, 6P, MALE
CN12	1-506-473-11	o	CONNECTOR, 8P, MALE
CN13	1-560-364-00	o	CONNECTOR POST HEADER, ILG (2P)
CN14	1-506-467-11	o	CONNECTOR, 2P, MALE
CN15	1-565-819-11	s	CONNECTOR, FPC (DIP TYPE) 25P
CN16	1-565-819-11	s	CONNECTOR, FPC (DIP TYPE) 25P
CN19	1-506-469-11	o	CONNECTOR, 4P, MALE
CN20	1-506-468-11	o	CONNECTOR, 3P, MALE
CN21	1-506-467-11	o	CONNECTOR, 2P, MALE
CP1	1-466-498-11	s	CONVERTER UNIT, DC-DC
D1	8-719-104-34	s	DIODE 1S2836
D2	8-719-800-76	s	DIODE 1SS226
IC1	8-759-242-64	s	IC TC4W53F
IC2	8-759-153-63	s	IC CXD8154AM
IC3	8-759-234-20	s	IC TC7S08F
IC5	8-759-906-54	s	IC TL064CNS
L1	1-408-785-21	s	CHIP 47uH
L2	1-408-769-11	s	INDUCTOR CHIP 2.2UH
L3	1-408-785-21	s	CHIP 47uH
Q1	8-729-100-66	s	TRANSISTOR 2SC1623
Q2	8-729-216-22	s	TRANSISTOR 2SA1162
Q3	8-729-100-66	s	TRANSISTOR 2SC1623
Q4	8-729-175-73	s	TRANSISTOR 2SC2757
Q5	8-729-122-63	s	TRANSISTOR 2SA1226
Q6	8-729-175-73	s	TRANSISTOR 2SC2757

(MB-307 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q8	8-729-104-75	s	TRANSISTOR 2SB799-ML
Q9	8-729-100-66	s	TRANSISTOR 2SC1623
Q10	8-729-101-07	s	TRANSISTOR 2SB798
Q11	8-729-100-66	s	TRANSISTOR 2SC1623
Q12	8-729-140-75	s	TRANSISTOR 2SD999-CLCK
R3	1-216-682-11	s	METAL, CHIP 20K 0.5% 1/10W
R4	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R15	1-216-639-11	s	METAL, CHIP 330 0.5% 1/10W
R16	1-216-639-11	s	METAL, CHIP 330 0.5% 1/10W
R34	1-216-693-11	s	METAL, CHIP 56K 0.5% 1/10W
R35	1-216-684-11	s	METAL, CHIP 24K 0.5% 1/10W
R39	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R40	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R42	1-216-676-11	s	METAL, CHIP 11K 0.5% 1/10W
R43	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
S1	1-572-658-21	s	SWITCH, ROTARY
S2	1-571-259-11	s	SWITCH, SLIDE
VC01	1-577-181-11	s	OSCILLATOR, CRYSTAL

Please see pages D-13 and D-14 for the part numbers of capacitors and resistors that are not listed in the parts list.

PR-143 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-290-A	o	MOUNTED CIRCUIT BOARD (U), PR-143
1pc	3-674-361-01	o	SUPPORT, PC BOARD
1pc	7-621-775-08	s	SCREW +B 2.6X3
C3	1-135-216-11	s	TANTAL 10uF 20% 10V
C4	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V
C5	1-135-159-21	s	TANTALUM, CHIP 10uF 10% 20V
C6	1-135-216-11	s	TANTAL 10uF 20% 10V
C8	1-135-216-11	s	TANTAL 10uF 20% 10V
C10	1-135-216-11	s	TANTAL 10uF 20% 10V
C11	1-135-159-21	s	TANTALUM, CHIP 10uF 10% 20V
C14	1-135-216-11	s	TANTAL 10uF 20% 10V
C15	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V
C16	1-135-159-21	s	TANTALUM, CHIP 10uF 10% 20V
C17	1-135-216-11	s	TANTAL 10uF 20% 10V
C19	1-135-216-11	s	TANTAL 10uF 20% 10V
C22	1-135-216-11	s	TANTAL 10uF 20% 10V
C27	1-135-216-11	s	TANTAL 10uF 20% 10V
C28	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V
C29	1-135-159-21	s	TANTALUM, CHIP 10uF 10% 20V
C32	1-135-216-11	s	TANTAL 10uF 20% 10V
C34	1-135-216-11	s	TANTAL 10uF 20% 10V
C36	1-135-216-11	s	TANTAL 10uF 20% 10V
C38	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C39	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C42	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C51	1-135-180-21	s	TANTAL 3.3uF 20% 6.3V
C53	1-135-211-11	s	TANTAL 6.8uF 20% 6.3VW
C54	1-135-211-11	s	TANTAL 6.8uF 20% 6.3VW
C55	1-135-216-11	s	TANTAL 10uF 20% 10V
C56	1-135-216-11	s	TANTAL 10uF 20% 10V
C59	1-163-243-11	s	CERAMIC 47PF 5% 50V
C61	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C62	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C63	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C64	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C65	1-135-216-11	s	TANTAL 10uF 20% 10V
C68	1-135-216-11	s	TANTAL 10uF 20% 10V
C69	1-135-216-11	s	TANTAL 10uF 20% 10V
C71	1-135-216-11	s	TANTAL 10uF 20% 10V
C72	1-135-177-21	s	TANTALUM CHIP 1uF 10% 25V
CN1	1-565-780-11	o	CONNECTOR, TX(P.L)(PC BOARD)50P
CN2	1-563-681-21	o	CONNECTOR, BOARD TO BOARD 8P
CN3	1-563-687-21	o	CONNECTOR, BOARD TO BOARD 14P
D1	8-719-104-34	s	DIODE 1S2836
D2	8-719-104-34	s	DIODE 1S2836
D3	8-719-951-13	s	DIODE HZ5CLL
DL1	1-415-307-00	s	165nS
DL2	1-415-307-00	s	165nS
DL3	1-415-307-00	s	165nS
FL1	1-409-427-11	s	FILTER, TRAP 14.3MHz
FL2	1-409-427-11	s	FILTER, TRAP 14.3MHz
FL3	1-409-427-11	s	FILTER, TRAP 14.3MHz
IC1	1-465-679-11	s	HYBRID IC
IC2	1-807-837-21	s	IC GAM
IC3	1-807-839-11	s	IC WCL
IC4	1-465-679-11	s	HYBRID IC
IC5	1-807-837-21	s	IC GAM

(PR-143 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC6	1-807-839-11	s	IC WCL
IC7	1-465-679-11	s	HYBRID IC
IC8	1-807-837-21	s	IC GAM
IC9	1-807-839-11	s	IC WCL
IC10	8-759-300-71	s	IC MC14053BF
IC11	8-759-300-71	s	IC MC14053BF
IC12	8-759-031-84	s	IC TC7S04F
IC13	8-759-234-20	s	IC TC7S08F
IC14	8-759-234-20	s	IC TC7S08F
IC16	8-759-630-27	s	IC M5236ML
IC17	8-759-906-53	s	IC TL062CPS
Q1	8-729-122-63	s	TRANSISTOR 2SA1226
Q2	8-729-175-73	s	TRANSISTOR 2SC2757
Q3	8-729-122-63	s	TRANSISTOR 2SA1226
Q4	8-729-175-73	s	TRANSISTOR 2SC2757
Q5	8-729-122-63	s	TRANSISTOR 2SA1226
Q6	8-729-122-63	s	TRANSISTOR 2SA1226
Q7	8-729-175-73	s	TRANSISTOR 2SC2757
Q8	8-729-122-63	s	TRANSISTOR 2SA1226
Q9	8-729-122-63	s	TRANSISTOR 2SA1226
Q11	8-729-175-73	s	TRANSISTOR 2SC2757
Q12	8-729-122-63	s	TRANSISTOR 2SA1226
Q13	8-729-122-63	s	TRANSISTOR 2SA1226
Q14	8-729-175-73	s	TRANSISTOR 2SC2757
Q15	8-729-122-63	s	TRANSISTOR 2SA1226
Q16	8-729-175-73	s	TRANSISTOR 2SC2757
Q17	8-729-122-63	s	TRANSISTOR 2SA1226
Q18	8-729-175-73	s	TRANSISTOR 2SC2757
Q19	8-729-175-73	s	TRANSISTOR 2SC2757
Q21	8-729-100-66	s	TRANSISTOR 2SC1623
Q22	8-729-175-73	s	TRANSISTOR 2SC2757
Q23	8-729-175-73	s	TRANSISTOR 2SC2757
Q24	8-729-175-73	s	TRANSISTOR 2SC2757
Q25	8-729-175-73	s	TRANSISTOR 2SC2757
Q26	8-729-175-73	s	TRANSISTOR 2SC2757
Q27	8-729-175-73	s	TRANSISTOR 2SC2757
Q28	8-729-175-73	s	TRANSISTOR 2SC2757
Q29	8-729-175-73	s	TRANSISTOR 2SC2757
Q30	8-729-175-73	s	TRANSISTOR 2SC2757
Q31	8-729-175-73	s	TRANSISTOR 2SC2757
Q32	8-729-807-50	s	TRANSISTOR 2SD1623
Q33	8-729-101-07	s	TRANSISTOR 2SB798
Q34	8-729-101-07	s	TRANSISTOR 2SB798
R1	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R4	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R5	1-216-689-11	s	METAL, CHIP 39K 0.5% 1/10W
R7	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R11	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R13	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R14	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R15	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R16	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R26	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R28	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R29	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R31	1-216-689-11	s	METAL, CHIP 39K 0.5% 1/10W
R38	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R39	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W

Please see pages D-13 and D-14 for the part numbers of capacitors and resistors that are not listed in the parts list.

(PR-143 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R41	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R42	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R59	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R61	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R62	1-216-689-11	s	METAL, CHIP 39K 0.5% 1/10W
R64	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R67	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R70	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R71	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R72	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R73	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R78	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R79	1-216-687-11	s	METAL, CHIP 33K 0.5% 1/10W
R123	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R127	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R130	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R138	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R147	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R148	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
RV1	1-241-447-21	s	RES, ADJ, CERMET 5K
RV3	1-241-446-21	s	RES, ADJ, CERMET 2K
RV4	1-241-444-21	s	RES, ADJ, CERMET 500
RV5	1-241-447-21	s	RES, ADJ, CERMET 5K
RV6	1-241-444-21	s	RES, ADJ, CERMET 500
RV7	1-241-266-11	s	RES, ADJ, CERMET 50K
RV8	1-241-447-21	s	RES, ADJ, CERMET 5K
RV10	1-241-446-21	s	RES, ADJ, CERMET 2K
RV13	1-241-447-21	s	RES, ADJ, CERMET 5K
RV14	1-241-444-21	s	RES, ADJ, CERMET 500
RV15	1-241-266-11	s	RES, ADJ, CERMET 50K
RV16	1-241-447-21	s	RES, ADJ, CERMET 5K
RV18	1-241-446-21	s	RES, ADJ, CERMET 2K
RV19	1-241-444-21	s	RES, ADJ, CERMET 500
RV20	1-241-447-21	s	RES, ADJ, CERMET 5K
RV21	1-241-444-21	s	RES, ADJ, CERMET 500
RV22	1-241-266-11	s	RES, ADJ, CERMET 50K
RV24	1-241-264-11	s	RES, ADJ, CERMET 10K
RV25	1-241-264-11	s	RES, ADJ, CERMET 10K
RV26	1-241-264-11	s	RES, ADJ, CERMET 10K
RV27	1-241-447-21	s	RES, ADJ, CERMET 5K
RV28	1-241-447-21	s	RES, ADJ, CERMET 5K
RV29	1-241-262-11	s	RES, ADJ, CERMET 2K
RV30	1-241-262-11	s	RES, ADJ, CERMET 2K
RV31	1-241-262-11	s	RES, ADJ, CERMET 2K
RV32	1-241-448-21	s	RES, ADJ, CERMET 10K
RV33	1-241-448-21	s	RES, ADJ, CERMET 10K
RV34	1-241-448-21	s	RES, ADJ, CERMET 10K
RV35	1-241-448-21	s	RES, ADJ, CERMET 10K
RV36	1-241-445-21	s	RES, ADJ, CERMET 1K
S1	1-571-259-11	s	SWITCH, SLIDE

SG-171 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-288-A	o	MOUNTED CIRCUIT BOARD (N), SG-171
C3	1-135-159-21	s	TANTALUM, CHIP 10uF 10% 20V
C5	1-135-159-21	s	TANTALUM, CHIP 10uF 10% 20V
C6	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C7	1-163-275-11	s	CERAMIC 0.001uF 5% 50V
C8	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C9	1-163-251-11	s	CERAMIC 100PF 5% 50V
C11	1-135-216-11	s	TANTAL 10uF 20% 10V
C12	1-135-216-11	s	TANTAL 10uF 20% 10V
C14	1-135-073-00	s	TANTALUM, CHIP 0.33uF 10% 35V
C15	1-163-243-11	s	CERAMIC 47PF 5% 50V
C16	1-135-070-00	s	TANTALUM, CHIP 0.1uF 10% 35V
C17	1-135-070-00	s	TANTALUM, CHIP 0.1uF 10% 35V
C18	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C20	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V
C22	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C23	1-135-166-21	s	TANTALUM, CHIP 47uF 10% 10V
C32	1-135-216-11	s	TANTAL 10uF 20% 10V
C33	1-135-216-11	s	TANTAL 10uF 20% 10V
C37	1-135-216-11	s	TANTAL 10uF 20% 10V
C38	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
C41	1-126-320-11	s	ELECT, NONPOLAR 10uF 20% 16V
C43	1-135-216-11	s	TANTAL 10uF 20% 10V
C46	1-135-216-11	s	TANTAL 10uF 20% 10V
C50	1-163-227-11	s	CERAMIC 10PF 5% 50V
C53	1-163-243-11	s	CERAMIC 47PF 5% 50V
C54	1-163-243-11	s	CERAMIC 47PF 5% 50V
C56	1-163-243-11	s	CERAMIC 47PF 5% 50V
C59	1-135-070-00	s	TANTALUM, CHIP 0.1uF 10% 35V
C60	1-135-215-21	s	TANTAL 6.8uF 20% 16V
C61	1-163-235-11	s	CERAMIC 22PF 5% 50V
C62	1-163-243-11	s	CERAMIC 47PF 5% 50V
C64	1-135-070-00	s	TANTALUM, CHIP 0.1uF 10% 35V
C65	1-135-215-21	s	TANTAL 6.8uF 20% 16V
C66	1-163-235-11	s	CERAMIC 22PF 5% 50V
C68	1-163-135-00	s	CERAMIC, CHIP 560PF 5% 50V
C70	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C73	1-163-275-11	s	CERAMIC 0.001uF 5% 50V
C75	1-135-216-11	s	TANTAL 10uF 20% 10V
C76	1-135-159-21	s	TANTALUM, CHIP 10uF 10% 20V
C77	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C79	1-135-070-00	s	TANTALUM, CHIP 0.1uF 10% 35V
C80	1-135-215-21	s	TANTAL 6.8uF 20% 16V
C81	1-163-235-11	s	CERAMIC 22PF 5% 50V
C82	1-163-243-11	s	CERAMIC 47PF 5% 50V
C84	1-135-070-00	s	TANTALUM, CHIP 0.1uF 10% 35V
C85	1-135-215-21	s	TANTAL 6.8uF 20% 16V
C86	1-163-235-11	s	CERAMIC 22PF 5% 50V
C87	1-135-216-11	s	TANTAL 10uF 20% 10V
C88	1-135-216-11	s	TANTAL 10uF 20% 10V
C89	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C93	1-135-216-11	s	TANTAL 10uF 20% 10V
C95	1-135-216-11	s	TANTAL 10uF 20% 10V
CN1	1-563-687-21	o	CONNECTOR, BOARD TO BOARD 14P
CN2	1-563-687-21	o	CONNECTOR, BOARD TO BOARD 14P
D1	8-719-104-34	s	DIODE 1S2836
D2	8-719-104-34	s	DIODE 1S2836

Please see pages D-13 and D-14 for the part numbers of capacitors and resistors that are not listed in the parts list.

(SG-171 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
D3	8-719-104-34	s	DIODE 1S2836
IC1	8-759-101-12	s	IC UPC311G2
IC2	8-752-335-47	s	IC CXD1216M
IC3	8-759-100-94	s	IC UPC358G2
IC5	8-759-100-94	s	IC UPC358G2
IC6	8-759-902-88	s	IC SN74LS123NS
IC7	8-759-100-94	s	IC UPC358G2
IC8	8-759-902-88	s	IC SN74LS123NS
IC9	8-752-332-67	s	IC CXD1217M
IC10	8-759-239-23	s	IC SN74HC86NS
IC11	8-759-234-77	s	IC TC4S66F
IC12	8-759-239-34	s	IC TC74HC4538AF
IC13	8-759-038-46	s	IC TC7S00F
IC14	8-759-112-66	s	IC UPC812G2
IC15	8-759-242-64	s	IC TC4W53F
IC16	8-759-242-64	s	IC TC4W53F
IC18	8-759-927-46	s	IC SN74HC00ANS
IC19	8-759-234-77	s	IC TC4S66F
IC20	8-759-234-20	s	IC TC7S08F
L1	1-408-785-21	s	CHIP 47uH
L2	1-408-785-21	s	CHIP 47uH
L3	1-408-785-21	s	CHIP 47uH
L4	1-410-711-31	s	INDUCTOR CHIP 33UH
L5	1-408-785-21	s	CHIP 47uH
L8	1-408-785-21	s	CHIP 47uH
L9	1-410-719-31	s	INDUCTOR CHIP 150UH
L10	1-408-785-21	s	CHIP 47uH
L11	1-408-785-21	s	CHIP 47uH
Q1	8-729-402-19	s	TRANSISTOR XN6501
Q2	8-729-402-84	s	TRANSISTOR XN4601
Q3	8-729-216-22	s	TRANSISTOR 2SA1162
Q4	8-729-402-19	s	TRANSISTOR XN6501
Q5	8-729-403-29	s	TRANSISTOR XN6435
Q6	8-729-402-84	s	TRANSISTOR XN4601
Q9	8-729-402-19	s	TRANSISTOR XN6501
Q10	8-729-403-29	s	TRANSISTOR XN6435
Q12	8-729-402-84	s	TRANSISTOR XN4601
Q13	8-729-402-19	s	TRANSISTOR XN6501
Q14	8-729-403-29	s	TRANSISTOR XN6435
Q15	8-729-216-22	s	TRANSISTOR 2SA1162
Q16	8-729-141-53	s	TRANSISTOR 2SK94-X2X3X4
Q17	8-729-402-84	s	TRANSISTOR XN4601
Q21	8-729-216-22	s	TRANSISTOR 2SA1162
R10	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R12	1-216-657-11	s	METAL, CHIP 1.8K 0.5% 1/10W
R13	1-216-663-11	s	METAL, CHIP 3.3K 0.5% 1/10W
R15	1-216-652-11	s	METAL, CHIP 1.1K 0.5% 1/10W
R23	1-216-670-11	s	METAL, CHIP 6.2K 0.5% 1/10W
R36	1-216-687-11	s	METAL, CHIP 33K 0.5% 1/10W
R68	1-216-641-11	s	METAL, CHIP 390 0.5% 1/10W
R69	1-216-641-11	s	METAL, CHIP 390 0.5% 1/10W
R82	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R83	1-216-685-11	s	METAL, CHIP 27K 0.5% 1/10W
R89	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R90	1-216-687-11	s	METAL, CHIP 33K 0.5% 1/10W
R91	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R99	1-216-657-11	s	METAL, CHIP 1.8K 0.5% 1/10W
R116	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W

(SG-171 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R117	1-216-685-11	s	METAL, CHIP 27K 0.5% 1/10W
R123	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R124	1-216-687-11	s	METAL, CHIP 33K 0.5% 1/10W
R125	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R137	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R138	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R140	1-216-672-11	s	METAL, CHIP 7.5K 0.5% 1/10W
RV1	1-241-262-11	s	RES, ADJ, CERMET 2K
RV2	1-241-265-11	s	RES, ADJ, CERMET 20K
VC01	1-577-089-11	s	OSCILLATOR, CRYSTAL

SW-414 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-562-738-11	o	HOUSING, 5P
1pc	1-562-736-11	o	HOUSING, 3P
1pc	1-564-831-11	o	CONTACT, FEMALE
1pc	1-569-193-11	s	CONTACT
1pc	1-569-196-11	o	HOUSING, 3P
1pc	1-569-198-11	o	PLUG HOUSING, 5P
1pc	1-638-051-12	o	PC BOARD, SW-414
CN2	1-506-482-11	o	CONNECTOR, 3P, MALE
R1	1-249-409-11	s	CARBON 220 5% 1/4W
R2	1-249-419-11	s	CARBON 1.5K 5% 1/4W
R3	1-249-393-11	s	CARBON 10 5% 1/4W
R4	1-249-437-11	s	CARBON 47K 5% 1/4W
R5	1-249-433-11	s	CARBON 22K 5% 1/4W
S1	1-554-174-00	s	SWITCH, TACTILE
S2	1-554-174-00	s	SWITCH, TACTILE
S3	1-554-174-00	s	SWITCH, TACTILE

Please see pages D-13 and D-14 for the part numbers of capacitors and resistors that are not listed in the parts list.

SW-415 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-638-052-12	o	PC BOARD, SW-415
CN1	1-506-482-11	o	CONNECTOR, 3P, MALE
R1	1-249-437-11	s	CARBON 47K 5% 1/4W
R2	1-249-429-11	s	CARBON 10K 5% 1/4W
R3	1-249-434-11	s	CARBON 27K 5% 1/4W
R4	1-249-437-11	s	CARBON 47K 5% 1/4W
R5	1-249-429-11	s	CARBON 10K 5% 1/4W
R6	1-249-434-11	s	CARBON 27K 5% 1/4W
S1	1-570-985-11	s	SWITCH, TOGGLE
S2	1-570-984-11	s	SWITCH, TOGGLE
S3	1-570-985-11	s	SWITCH, TOGGLE
S4	1-572-660-11	s	SWITCH, TOGGLE

FRAME

Ref. No. or Q'ty	Part No.	SP	Description
	1-542-126-31	s	MICROPHONE UNIT
	1-547-474-11	o	FILTER UNIT, OPTICS
	1-554-486-00	s	SWITCH, TOGGLE "AUTO W/B BAL"0
	1-561-781-21	s	CONNECTOR, BNC, FEMALE
	1-572-659-11	s	SWITCH, TOGGLE "POWER"
	1-590-489-11	s	WIRE, FLAT TYPE (25 CORE)
	1-948-168-11	o	HARNESS (CN)
	8-759-747-09	s	IC MB7116H
CN101	1-562-782-21	s	RECEPTACLE, CONNECTOR 10P "REMOTE"
	1-569-200-31	o	HOUSING, CONNECTOR 7P
	1-569-193-11	s	CONTACT, AWG24-30
CN102	1-562-221-21	s	CONNECTOR, 12P, FEMALE "LENS"
	1-569-193-11	s	CONTACT, AWG24-30
	1-569-199-11	o	PLUG HOUSING, 6P
CN103	1-561-320-00	s	SOCKET, DIN 8P "VF"
	1-569-201-11	o	HOUSING, 8P
	1-569-193-11	s	CONTACT, AWG24-30

Please see pages D-13 and D-14 for the part numbers of capacitors and resistors that are not listed in the parts list.

SECTION E
CHANGED PARTS

NOTE: The numbers identified by making with) are matching with each serial numbers.

102) S/N 10371 and up
103) S/N 10841 and up
104) S/N 11061 and up
105) S/N 11121 and up
107) S/N 11751 and up
109) S/N 12201 and up
110) S/N 12381 and up
111) S/N 12631 and up

AT-59 BOARD

OLD)	D12	8-719-400-18	s	DIODE MA152WK
105)	D12	8-719-974-76	s	DIODE HSM107S
OLD)	Q26	NOT IN USE.		
104)	Q26	8-729-175-73	s	TRANSISTOR 2SC2757
OLD)	R146	1-216-077-00	s	METAL, CHIP 15K 5% 1/10W
104)	R146	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
OLD)	R191	NOT IN USE.		
102)	R191	1-216-663-11	s	METAL, CHIP 3.3K 0.5% 1/10W
OLD)	RV1	1-237-034-11	s	RES, ADJ, METAL 2K
111)	RV1	1-241-446-21	s	RES, ADJ, CERMET 2K
OLD)	RV2	1-237-037-11	s	RES, ADJ, METAL 20K
111)	RV2	1-241-449-21	s	RES, ADJ, CERMET 20K
OLD)	RV3	1-237-034-11	s	RES, ADJ, METAL 2K
111)	RV3	1-241-446-21	s	RES, ADJ, CERMET 2K
OLD)	S2	1-570-859-11	s	SWITCH, SLIDE
105)	S2	1-570-857-11	s	SWITCH, SLIDE

CN-439 BOARD

OLD)	1pc	1-638-047-11	o	PC BOARD, CN-439
102)	1pc	1-638-047-12	o	PC BOARD, CN-439

EN-95 BOARD

OLD)	C4	1-126-398-11	s	ELECT, CHIP 4.7uF 20% 35V
109)	C4	1-126-393-11	s	ELECT 33uF 20% 10V
OLD)	C11	1-126-398-11	s	ELECT, CHIP 4.7uF 20% 35V
109)	C11	1-126-393-11	s	ELECT 33uF 20% 10V
OLD)	C23	1-107-048-00	s	MICA 6.8PF 500V
109)	C23	1-163-224-11	s	CERAMIC 7PF 0.25PF 50V
OLD)	C29	1-163-087-00	s	CERAMIC, CHIP 4PF 50V
105)	C29	1-163-089-00	s	CERAMIC, CHIP 6PF 50V
OLD)	C86	1-163-109-00	s	CERAMIC, CHIP 47PF 5% 50V
110)	C86	1-163-113-00	s	CERAMIC 68PF 5% 50V
OLD)	JR7	NOT IN USE.		
109)	JR7	1-216-295-00	s	METAL, CHIP 0-OHM
OLD)	JR10	NOT IN USE.		
109)	JR10	1-216-295-00	s	METAL, CHIP 0-OHM
OLD)	R3	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
109)	R3	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
OLD)	R6	NOT IN USE.		
111)	R6	1-241-444-11	s	RES, ADJ, CERMET 500

(EN-95 BOARD)

OLD)	R12	NOT IN USE.		
111)	R12	1-241-444-11	s	RES, ADJ, CERMET 500
OLD)	R18	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
109)	R18	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
OLD)	R21	1-216-656-11	s	METAL, CHIP 1.6K 0.5% 1/10W
103)	R21	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
OLD)	R38	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
102)	R38	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
OLD)	R147	1-216-678-11	s	METAL, CHIP 13K 0.5% 1/10W
109)	R147	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
OLD)	R161	1-216-678-11	s	METAL, CHIP 13K 0.5% 1/10W
109)	R161	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
OLD)	R175	1-216-678-11	s	METAL, CHIP 13K 0.5% 1/10W
109)	R175	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
OLD)	R237	NOT IN USE.		
109)	R237	1-216-099-00	s	METAL, CHIP 120K 5% 1/10W
OLD)	R238	NOT IN USE.		
109)	R238	1-216-099-00	s	METAL, CHIP 120K 5% 1/10W
OLD)	R239	NOT IN USE.		
109)	R239	1-216-099-00	s	METAL, CHIP 120K 5% 1/10W
OLD)	R240	NOT IN USE.		
109)	R240	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
OLD)	R241	NOT IN USE.		
109)	R241	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
OLD)	RV2	1-237-032-11	s	RES, ADJ, METAL 500
111)	RV2	1-241-445-21	s	RES, ADJ, CERMET 1K
OLD)	RV5	1-237-033-11	s	RES, ADJ, METAL 1K
111)	RV5	1-241-445-21	s	RES, ADJ, CERMET 1K
OLD)	RV6	1-237-032-11	s	RES, ADJ, METAL 500
111)	RV6	DELETED.		
OLD)	RV10	1-237-035-11	s	RES, ADJ, METAL 5K
111)	RV10	1-241-447-21	s	RES, ADJ, CERMET 5K
OLD)	RV12	1-237-032-11	s	RES, ADJ, METAL 500
111)	RV12	DELETED.		
OLD)	RV13	1-237-036-11	s	RES, ADJ, METAL 10K
111)	RV13	1-241-449-21	s	RES, ADJ, CERMET 20K
OLD)	RV14	1-237-036-11	s	RES, ADJ, METAL 10K
111)	RV14	1-241-449-21	s	RES, ADJ, CERMET 20K
OLD)	RV15	1-237-036-11	s	RES, ADJ, METAL 10K
111)	RV15	1-241-449-21	s	RES, ADJ, CERMET 20K

IE-28 BOARD

OLD)	1pc	A-7515-292-A	o	MOUNTED CIRCUIT BOARD, IE-28(N)
107)	1pc	A-7515-292-B	o	MOUNTED CIRCUIT BOARD, IE-28(N)
OLD)	1pc	NOT IN USE.		
107)	1pc	3-172-381-01	o	PLATE (IE), SHIELD
OLD)	C25	1-163-105-00	s	CERAMIC, CHIP 33PF 5% 50V
103)	C25	1-163-239-11	s	CERAMIC 33PF 5% 50V
OLD)	C31	1-163-109-00	s	CERAMIC, CHIP 47PF 5% 50V
103)	C31	1-163-243-11	s	CERAMIC 47PF 5% 50V
OLD)	C33	1-163-105-00	s	CERAMIC, CHIP 33PF 5% 50V
103)	C33	1-163-239-11	s	CERAMIC 33PF 5% 50V
OLD)	C62	1-163-105-00	s	CERAMIC, CHIP 33PF 5% 50V
103)	C62	1-163-239-11	s	CERAMIC 33PF 5% 50V
OLD)	C66	1-163-105-00	s	CERAMIC, CHIP 33PF 5% 50V
103)	C66	1-163-239-11	s	CERAMIC 33PF 5% 50V
OLD)	C68	1-163-105-00	s	CERAMIC, CHIP 33PF 5% 50V
103)	C68	1-163-239-11	s	CERAMIC 33PF 5% 50V
OLD)	C85	1-163-105-00	s	CERAMIC, CHIP 33PF 5% 50V
103)	C85	1-163-239-11	s	CERAMIC 33PF 5% 50V
OLD)	C86	1-163-105-00	s	CERAMIC, CHIP 33PF 5% 50V
103)	C86	1-163-239-11	s	CERAMIC 33PF 5% 50V
OLD)	C106	1-163-086-00	s	CERAMIC, CHIP 3PF 50V
103)	C106	1-163-220-11	s	CERAMIC 3PF 0.25PF 50V
OLD)	C115	1-163-105-00	s	CERAMIC, CHIP 33PF 5% 50V
103)	C115	1-163-239-11	s	CERAMIC 33PF 5% 50V
OLD)	D4	8-719-101-97	s	DIODE 1SS97-1
103)	D4	8-719-101-98	s	DIODE 1SS97-0
OLD)	D5	8-719-101-97	s	DIODE 1SS97-1
103)	D5	8-719-101-98	s	DIODE 1SS97-0
OLD)	R163	1-216-089-00	s	METAL, CHIP 47K 5% 1/10W
107)	R163	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
OLD)	RV1	1-237-038-11	s	RES, ADJ, METAL 50K
111)	RV1	1-241-450-21	s	RES, ADJ, CERMET 50K
OLD)	RV2	1-237-038-11	s	RES, ADJ, METAL 50K
111)	RV2	1-241-450-21	s	RES, ADJ, CERMET 50K
OLD)	RV3	1-241-262-41	s	RES, ADJ, CERMET 2K
103)	RV3	1-241-262-11	s	RES, ADJ, CERMET 2K
OLD)	RV4	1-237-033-11	s	RES, ADJ, METAL 1K
111)	RV4	1-241-445-21	s	RES, ADJ, CERMET 1K
OLD)	RV5	1-241-263-41	s	RES, ADJ, CERMET 5K
103)	RV5	1-241-263-11	s	RES, ADJ, CERMET 5K
OLD)	RV6	1-237-032-11	s	RES, ADJ, METAL 500
111)	RV6	1-241-444-21	s	RES, ADJ, CERMET 500
OLD)	RV7	1-237-034-11	s	RES, ADJ, METAL 2K
111)	RV7	1-241-446-21	s	RES, ADJ, CERMET 2K

MB-307 BOARD

OLD)	R49	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
105)	R49	1-216-045-00	s	METAL, CHIP 680 5% 1/10W

PR-143 BOARD

OLD)	R107	1-216-059-00	s	METAL, CHIP 2.7K 5% 1/10W
103)	R107	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
OLD)	R117	1-216-059-00	s	METAL, CHIP 2.7K 5% 1/10W
103)	R117	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
OLD)	R150	NOT IN USE.		
103)	R150	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
OLD)	RV1	1-237-035-11	s	RES, ADJ, METAL 5K
111)	RV1	1-241-447-21	s	RES, ADJ, CERMET 5K
OLD)	RV3	1-237-034-11	s	RES, ADJ, METAL 2K
111)	RV3	1-241-446-21	s	RES, ADJ, CERMET 2K
OLD)	RV4	1-237-032-11	s	RES, ADJ, METAL 500
111)	RV4	1-241-444-21	s	RES, ADJ, CERMET 500
OLD)	RV5	1-237-035-11	s	RES, ADJ, METAL 5K
111)	RV5	1-241-447-21	s	RES, ADJ, CERMET 5K
OLD)	RV6	1-237-032-11	s	RES, ADJ, METAL 500
111)	RV6	1-241-444-21	s	RES, ADJ, CERMET 500
OLD)	RV8	1-237-035-11	s	RES, ADJ, METAL 5K
111)	RV8	1-241-447-21	s	RES, ADJ, CERMET 5K
OLD)	RV10	1-237-034-11	s	RES, ADJ, METAL 2K
111)	RV10	1-241-446-21	s	RES, ADJ, CERMET 2K
OLD)	RV13	1-237-035-11	s	RES, ADJ, METAL 5K
111)	RV13	1-241-447-21	s	RES, ADJ, CERMET 5K
OLD)	RV14	1-237-032-11	s	RES, ADJ, METAL 500
111)	RV14	1-241-444-21	s	RES, ADJ, CERMET 500
OLD)	RV16	1-237-035-11	s	RES, ADJ, METAL 5K
111)	RV16	1-241-447-21	s	RES, ADJ, CERMET 5K
OLD)	RV18	1-237-034-11	s	RES, ADJ, METAL 2K
111)	RV18	1-241-446-21	s	RES, ADJ, CERMET 2K
OLD)	RV19	1-237-032-11	s	RES, ADJ, METAL 500
111)	RV19	1-241-444-21	s	RES, ADJ, CERMET 500
OLD)	RV20	1-237-035-11	s	RES, ADJ, METAL 5K
111)	RV20	1-241-447-21	s	RES, ADJ, CERMET 5K
OLD)	RV21	1-237-032-11	s	RES, ADJ, METAL 500
111)	RV21	1-241-444-21	s	RES, ADJ, CERMET 500
OLD)	RV27	1-237-035-11	s	RES, ADJ, METAL 5K
111)	RV27	1-241-447-21	s	RES, ADJ, CERMET 5K
OLD)	RV28	1-237-035-11	s	RES, ADJ, METAL 5K
111)	RV28	1-241-447-21	s	RES, ADJ, CERMET 5K
OLD)	RV32	1-237-036-11	s	RES, ADJ, METAL 10K
111)	RV32	1-241-448-21	s	RES, ADJ, CERMET 10K
OLD)	RV33	1-237-036-11	s	RES, ADJ, METAL 10K
111)	RV33	1-241-448-21	s	RES, ADJ, CERMET 10K
OLD)	RV34	1-237-036-11	s	RES, ADJ, METAL 10K
111)	RV34	1-241-448-21	s	RES, ADJ, CERMET 10K
OLD)	RV35	1-237-036-11	s	RES, ADJ, METAL 10K
111)	RV35	1-241-448-21	s	RES, ADJ, CERMET 10K
OLD)	RV36	1-237-033-11	s	RES, ADJ, METAL 1K
111)	RV36	1-241-445-21	s	RES, ADJ, CERMET 1K

SG-171 BOARD

OLD)	D5	8-719-815-59 s DIODE 1S1555-S
103)	D5	DELETED.
OLD)	IC20	NOT IN USE.
103)	IC20	8-759-234-20 s IC TC7S08F
OLD)	JR3	NOT IN USE.
109)	JR3	1-216-295-00 s METAL, CHIP 0-OHM
OLD)	JR4	NOT IN USE.
109)	JR4	1-216-295-00 s METAL, CHIP 0-OHM
OLD)	R137	1-216-691-11 s METAL, CHIP 47K 0.5% 1/10W
102)	R137	1-216-683-11 s METAL, CHIP 22K 0.5% 1/10W

SW-414 BOARD

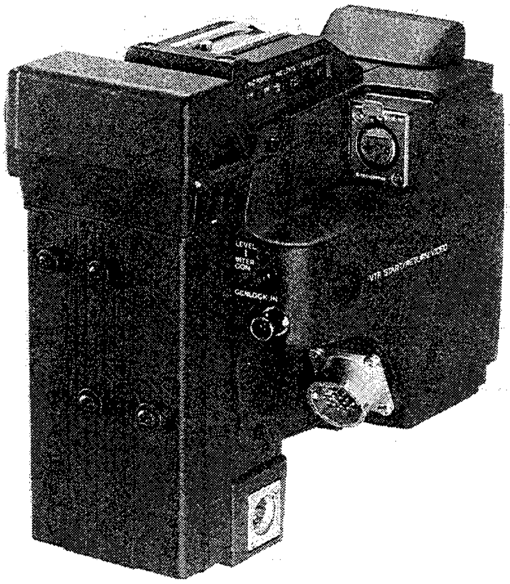
OLD)	1pc	1-638-051-11 o PC BOARD, SW-414
102)	1pc	1-638-051-12 o PC BOARD, SW-414

SW-415 BOARD

OLD)	1pc	1-638-052-11 o PC BOARD, SW-415
102)	1pc	1-638-052-12 o PC BOARD, SW-415

CAMERA ADAPTOR

CA-537



SPECIFICATIONS

Inputs/Outputs	VTR/CCU/CMA connector: Sony Z-type, 26-pin DC IN: XLR-type, 4-pin MIC IN: XLR-type, 3-pin GEN LOCK IN: BNC-type EARPHONE: mini jack INTERCOM: mini intercom jack
Power requirements	12 V DC
Power consumption	1.7 W
Operating temperature	−10°C to +45°C (14°F to 113°F)
Storage temperature	−20°C to +60°C (−4°F to +140°F)
Weight	1.3 kg (2 lb 14 oz)
Dimensions	118 × 205 × 187 mm ($4^{3}/_{4} \times 8^{1}/_{3} \times 7^{3}/_{8}$ inches)
Supplied accessories	Screws for attaching the CA-537/537P M4 × 6 (2) M4 × 12 (2) Operating instructions (1)

Design and specifications are subject to change without notice.

SONY®

SERVICE MANUAL

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C. SCHEMATIC DIAGRAMS AND BOARD ILLUSTRATIONS

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AU-141
SW-416 ········· C-15

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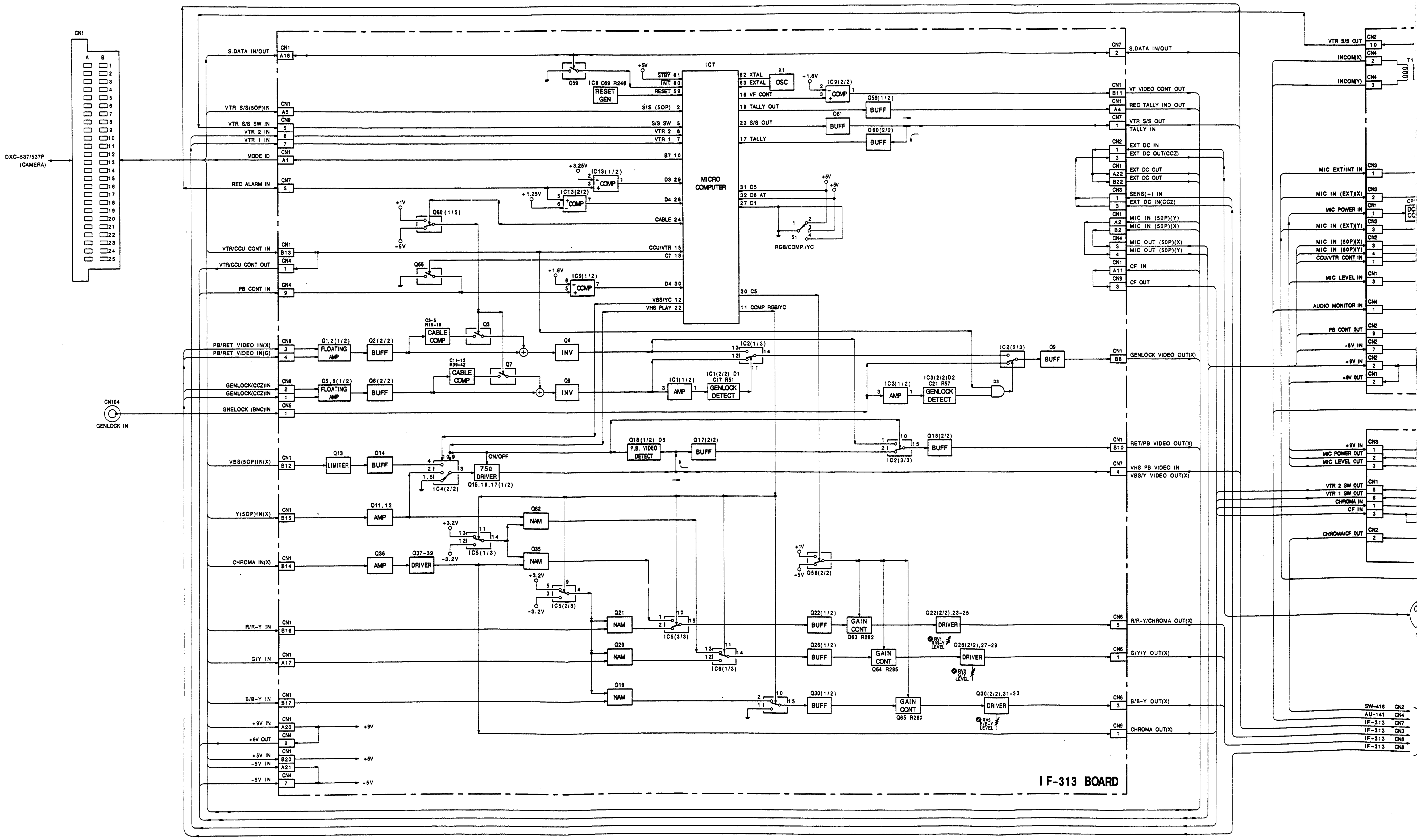
Exploded View ········· D-3
Packing Material and Accessories ········· D-6
Electrical Parts ········· D-7

SECTION A
BLOCK DIAGRAM

OVERALL BLOCK


CN1
DXC-537/537P (CAMERA)
CN104
GENLOCK IN
S.DATA IN/OUT
VTR S/S(50P)IN
VTR S/S SW IN
VTR 2 IN
VTR 1 IN
MODE ID
REC ALARM IN
VTR/CCU CONT IN
VTR/CCU CONT OUT
PB CONT IN
PB/RET VIDEO IN(X)
PB/RET VIDEO IN(G)
GENLOCK(CCZ)IN
GENLOCK (BNC)IN
VBS(50P)IN(X)
Y(50P)IN(X)
CHROMA IN(X)
R/R-Y IN
G/Y IN
B/B-Y IN
+9V IN
+9V OUT
+5V IN
-5V IN
IC7
MICRO COMPUTER
IC8 C69 R246
RESET GEN
X1
OSC
IC13(1/2)
IC13(2/2)
COMP
IC9(1/2)
IC9(2/2)
Q58(1/2)
Q61
Q60(2/2)
BUFF
S1
RGB/COMP./YC
Q59
Q60(1/2)
Q66
C3-5 R15-18
CABLE COMP
C11-13 R39-42
Q1,2(1/2)
FLOATING AMP
Q2(2/2)
Q5,6(1/2)
Q6(2/2)
Q3
Q7
Q4
Q8
INV
IC2(1/3)
IC1(1/2)
IC1(2/2) D1 C17 R51
GENLOCK DETECT
IC3(1/2)
IC3(2/2)D2 C21 R57
D3
IC2(2/3)
Q9
IC2(3/3)
Q18(2/2)
Q18(1/2) D5
P.B. VIDEO DETECT
Q17(2/2)
Q13
LIMITER
Q14
IC4(2/2)
ON/OFF
75Ω DRIVER
Q15,16,17(1/2)
Q11,12
AMP
Q62
NAM
IC5(1/3)
Q36
Q37-39
DRIVER
Q35
IC5(2/3)
Q58(2/2)
Q21
Q20
Q19
IC5(3/3)
IC6(1/3)
Q22(1/2)
Q63 R282
GAIN CONT
Q22(2/2),23-25
RV1 R/R-Y LEVEL
Q28(1/2)
Q64 R285
Q26(2/2),27-29
RV2 G/Y LEVEL
Q30(1/2)
Q65 R280
Q30(2/2),31-33
RV3 B/B-Y LEVEL
IF-313 BOARD
S.DATA IN/OUT
VF VIDEO CONT OUT
REC TALLY IND OUT
VTR S/S OUT
TALLY IN
EXT DC IN
EXT DC OUT(CCZ)
EXT DC OUT
SENS(+) IN
EXT DC IN(CCZ)
MIC IN (50P)(Y)
MIC IN (50P)(X)
MIC OUT (50P)(X)
MIC OUT (50P)(Y)
CF IN
CF OUT
GENLOCK VIDEO OUT(X)
RET/PB VIDEO OUT(X)
VHS PB VIDEO IN
VBS/Y VIDEO OUT(X)
R/R-Y/CHROMA OUT(X)
G/Y/Y OUT(X)
B/B-Y OUT(X)
CHROMA OUT(X)
VTR S/S OUT
INCOM(X)
INCOM(Y)
T1
MIC EXT/INT IN
MIC IN (EXT)(X)
MIC POWER IN
MIC IN (EXT)(Y)
MIC IN (50P)(X)
MIC IN (50P)(Y)
CCU/VTR CONT IN
MIC LEVEL IN
AUDIO MONITOR IN
PB CONT OUT
-5V IN
+9V IN
+9V OUT
MIC POWER OUT
MIC LEVEL OUT
VTR 2 SW OUT
VTR 1 SW OUT
CHROMA IN
CF IN
CHROMA/CF OUT
SW-416 CN2
AU-141 CN4
IF-313 CN7
IF-313 CN3
IF-313 CN6
IF-313 CN8

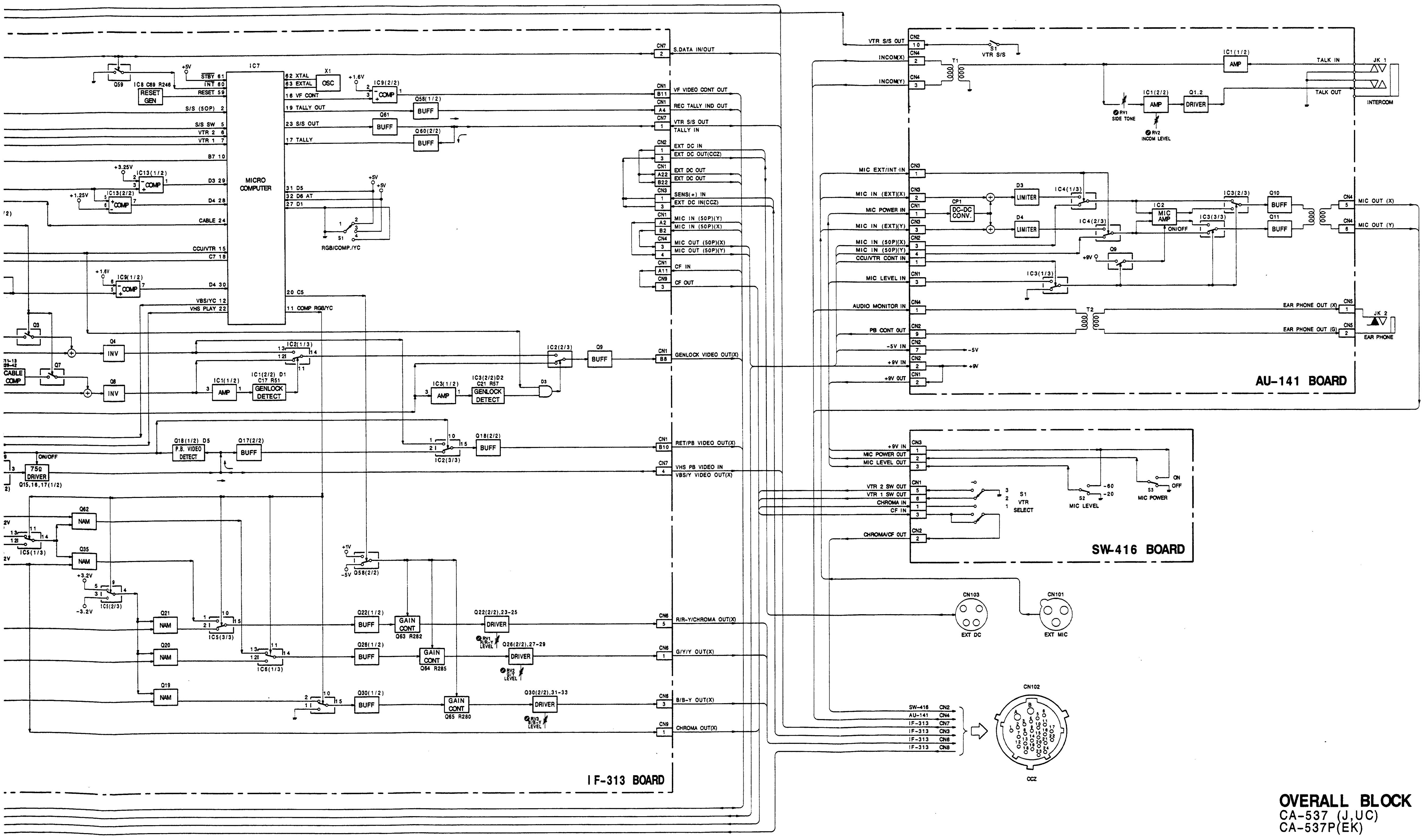
1

2

3

4

5


IF-313 BOARD
AU-141 BOARD
SW-416 BOARD
IC7
MICRO COMPUTER
STBY 61
INT 60
RESET 59
S/S (50P) 2
S/S SW 5
VTR 2 6
VTR 1 7
B7 10
D3 29
D4 28
CABLE 24
CCU/VTR 15
C7 18
D4 30
VBS/YC 12
VHS PLAY 22
62 XTAL
63 EXTAL
16 VF CONT
19 TALLY OUT
23 S/S OUT
17 TALLY
31 D5
32 D6 AT
27 D1
20 C5
11 COMP RGB/YC
X1
OSC
IC8 C89 R246
RESET GEN
Q59
IC9(2/2)
COMP
Q58(1/2)
BUFF
Q61
BUFF
Q60(2/2)
BUFF
IC13(1/2)
IC13(2/2)
IC9(1/2)
S1
RGB/COMP./YC
Q3
Q7
Q4
INV
Q8
INV
CABLE COMP
IC2(1/3)
IC1(1/2)
AMP
IC1(2/2) D1 C17 R51
GENLOCK DETECT
IC2(2/3)
Q9
BUFF
IC3(1/2)
AMP
IC3(2/2)D2 C21 R57
GENLOCK DETECT
D3
Q18(1/2) D5
P.B. VIDEO DETECT
Q17(2/2)
BUFF
IC2(3/3)
Q18(2/2)
BUFF
ON/OFF
75Ω DRIVER
Q15,16,17(1/2)
Q62
NAM
Q35
NAM
IC5(1/3)
IC5(2/3)
+3.2V
-3.2V
Q58(2/2)
Q21
NAM
IC5(3/3)
Q22(1/2)
BUFF
GAIN CONT
Q63 R282
Q22(2/2),23-25
DRIVER
RV1 R/R-Y LEVEL
Q20
NAM
IC6(1/3)
Q26(1/2)
BUFF
GAIN CONT
Q64 R285
Q26(2/2),27-29
DRIVER
RV2 G/Y LEVEL
Q19
NAM
Q30(1/2)
BUFF
GAIN CONT
Q65 R280
Q30(2/2),31-33
DRIVER
RV3 B/B-Y LEVEL
CN7 S.DATA IN/OUT
CN1 B11 VF VIDEO CONT OUT
CN1 A4 REC TALLY IND OUT
CN7 VTR S/S OUT
TALLY IN
CN2 EXT DC IN
EXT DC OUT(CCZ)
CN1 A22 EXT DC OUT
B22 EXT DC OUT
CN3 SENS(+) IN
EXT DC IN(CCZ)
CN1 A2 MIC IN (50P)(Y)
B2 MIC IN (50P)(X)
CN4 MIC OUT (50P)(X)
MIC OUT (50P)(Y)
CN1 A11 CF IN
CN9 CF OUT
CN1 B8 GENLOCK VIDEO OUT(X)
CN1 B10 RET/PB VIDEO OUT(X)
CN7 VHS PB VIDEO IN
VBS/Y VIDEO OUT(X)
CN6 R/R-Y/CHROMA OUT(X)
CN6 G/Y/Y OUT(X)
CN8 B/B-Y OUT(X)
CN9 CHROMA OUT(X)
VTR S/S OUT
INCOM(X)
INCOM(Y)
T1
S1 VTR S/S
IC1(1/2)
AMP
TALK IN
TALK OUT
JK 1
INTERCOM
IC1(2/2)
AMP
Q1,2
DRIVER
RV1 SIDE TONE
RV2 INCOM LEVEL
MIC EXT/INT IN
MIC IN (EXT)(X)
MIC POWER IN
MIC IN (EXT)(Y)
MIC IN (50P)(X)
MIC IN (50P)(Y)
CCU/VTR CONT IN
MIC LEVEL IN
CP1
DC-DC CONV.
D3
LIMITER
D4
LIMITER
IC4(1/3)
IC4(2/3)
IC2
MIC AMP
ON/OFF
IC3(2/3)
IC3(3/3)
IC3(1/3)
Q9
Q10
BUFF
Q11
BUFF
MIC OUT (X)
MIC OUT (Y)
AUDIO MONITOR IN
PB CONT OUT
-5V IN
+9V IN
+9V OUT
T2
EAR PHONE OUT (X)
EAR PHONE OUT (G)
JK 2
EAR PHONE
+9V IN
MIC POWER OUT
MIC LEVEL OUT
VTR 2 SW OUT
VTR 1 SW OUT
CHROMA IN
CF IN
CHROMA/CF OUT
S1 VTR SELECT
S2 MIC LEVEL
-60
-20
S3 MIC POWER
ON
OFF
CN103
EXT DC
CN101
EXT MIC
CN102
SW-416 CN2
AU-141 CN4
IF-313 CN7
IF-313 CN3
IF-313 CN6
IF-313 CN8
CCZ

OVERALL BLOCK
CA-537 (J,UC)
CA-537P(EK)

A-2 A-3

E F G H I J K L

B-CA537-OABLOCK/M

SECTION B
SEMICONDUCTOR

The circuit diagram of IC is obtained from the IC data book published by the manufacturer.

TYPE	PAGE
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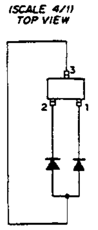
1S2836	B-2
1SS123	B-2
1SS226	B-2
2SA1162	B-2
2SA812	B-2
2SC1623	B-2
2SC2757	B-2
2SC2878	B-2
2SK94	B-2
HD6305Y0E26F	B-3
LM2903M	B-3
MC14052BF	B-4
MC14053BF	B-4
RC2043MD	B-4
RD ? ?M	B-2
TC4S81F	B-4
uPC358G2	B-4
uPC4558G2	B-4
XN4601	B-2
XN6401	B-2
XN6501	B-2
XN6534	B-2

DIODE, TRANSISTOR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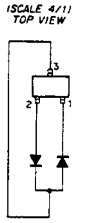
TOP VIEW
3
2
1

1S2835
1S2836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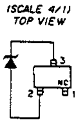
TOP VIEW
3
2
1

1SS123
1SS226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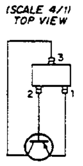
TOP VIEW
3
NC
2
1

RD ? ?M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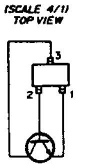
TOP VIEW
3
2
1

2SA1162
2SA812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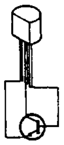
TOP VIEW
3
2
1

2SC1623
2SC2757



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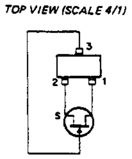
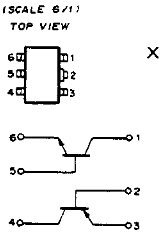

TOP VIEW (SCALE 4/1)
3
2
1
S

2SK94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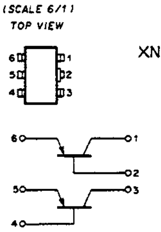
TOP VIEW
6
5
4
1
2
3

XN4601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TOP VIEW
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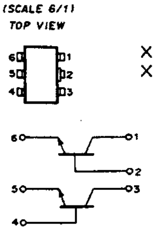
5
4
1
2
3

XN6401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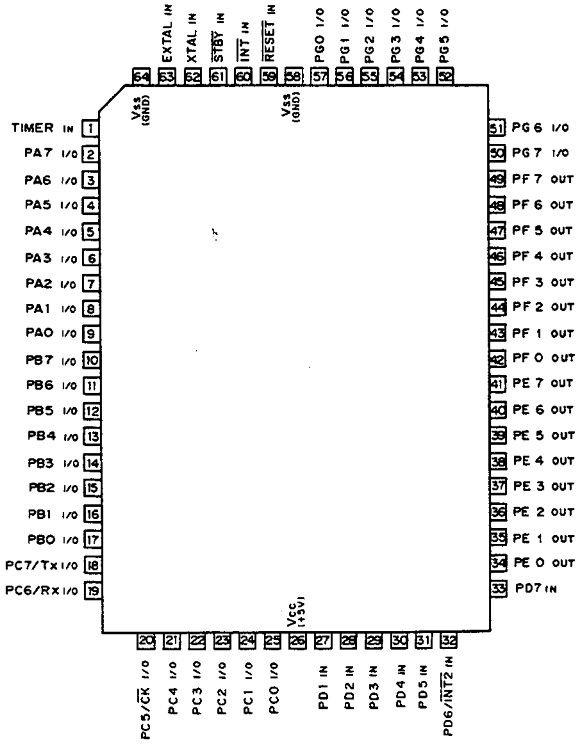
TOP VIEW
6
5
4
1
2
3

XN6501
XN6534

HD6305Y0E26F (HITACHI)
C-MOS 8-BIT MICROPROCESSOR UNIT
- TOP VIEW -


TIMER IN 1
PA7 I/O 2
PA6 I/O 3
PA5 I/O 4
PA4 I/O 5
PA3 I/O 6
PA2 I/O 7
PA1 I/O 8
PA0 I/O 9
PB7 I/O 10
PB6 I/O 11
PB5 I/O 12
PB4 I/O 13
PB3 I/O 14
PB2 I/O 15
PB1 I/O 16
PB0 I/O 17
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PC6/Rx I/O 19
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PD3 IN 29
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PE 1 OUT 35
PE 2 OUT 36
PE 3 OUT 37
PE 4 OUT 38
PE 5 OUT 39
PE 6 OUT 40
PE 7 OUT 41
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PF 1 OUT 43
PF 2 OUT 44
PF 3 OUT 45
PF 4 OUT 46
PF 5 OUT 47
PF 6 OUT 48
PF 7 OUT 49
PG 7 I/O 50
PG 6 I/O 51
PG5 I/O 52
PG4 I/O 53
PG3 I/O 54
PG2 I/O 55
PG1 I/O 56
PG0 I/O 57
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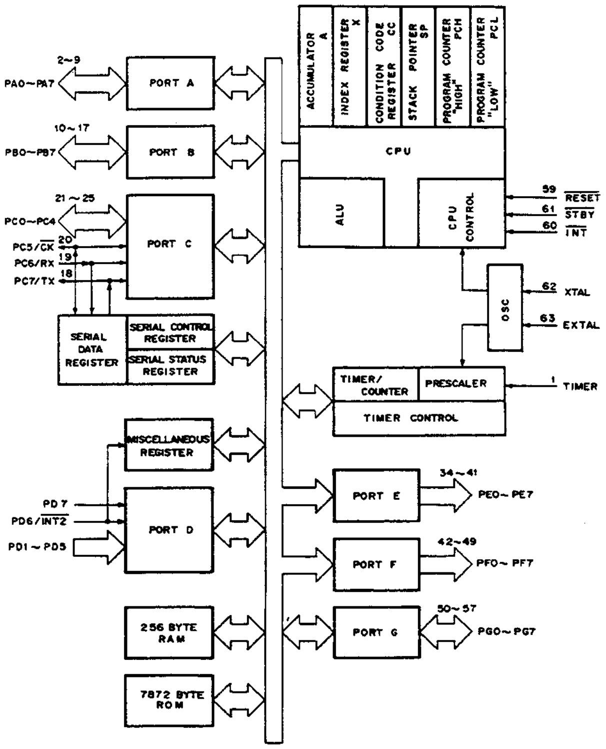
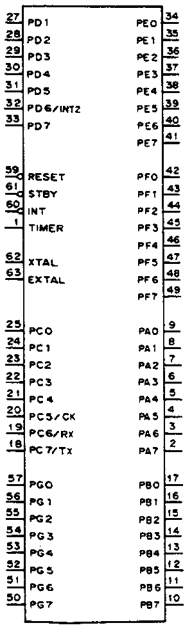
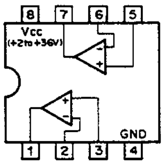
RESET IN 59
INT IN 60
STBY IN 61
XTAL IN 62
EXTAL IN 63
Vss (GND) 64


ACCUMULATOR A
INDEX REGISTER X
CONDITION CODE REGISTER CC
STACK POINTER SP
PROGRAM COUNTER "HIGH" PCH
PROGRAM COUNTER "LOW" PCL
CPU
ALU
CPU CONTROL
59 RESET
61 STBY
60 INT
OSC
62 XTAL
63 EXTAL
2~9
PA0~PA7
PORT A
10~17
PB0~PB7
PORT B
21~25
PC0~PC4
PC5/CK 20
PC6/RX 19
PC7/TX 18
PORT C
SERIAL DATA REGISTER
SERIAL CONTROL REGISTER
SERIAL STATUS REGISTER
TIMER/COUNTER
PRESCALER
1 TIMER
TIMER CONTROL
MISCELLANEOUS REGISTER
PD7
PD6/INT2
PD1~PD5
PORT D
256 BYTE RAM
7872 BYTE ROM
PORT E
34~41
PE0~PE7
PORT F
42~49
PF0~PF7
PORT G
50~57
PG0~PG7


27 PD1
28 PD2
29 PD3
30 PD4
31 PD5
32 PD6/INT2
33 PD7
59 RESET
61 STBY
60 INT
1 TIMER
62 XTAL
63 EXTAL
25 PC0
24 PC1
23 PC2
22 PC3
21 PC4
20 PC5/CK
19 PC6/RX
18 PC7/TX
57 PG0
56 PG1
55 PG2
54 PG3
53 PG4
52 PG5
51 PG6
50 PG7
PE0 34
PE1 35
PE2 36
PE3 37
PE4 38
PE5 39
PE6 40
PE7 41
PF0 42
PF1 43
PF2 44
PF3 45
PF4 46
PF5 47
PF6 48
PF7 49
PA0 9
PA1 8
PA2 7
PA3 6
PA4 5
PA5 4
PA6 3
PA7 2
PB0 17
PB1 16
PB2 15
PB3 14
PB4 13
PB5 12
PB6 11
PB7 10

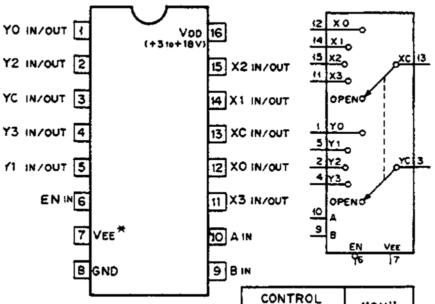
PA0~PA7 : 8-BIT I/O PORT A
PB0~PB7 : 8-BIT I/O PORT B
PC0~PC7 : 8-BIT I/O PORT C
PD1~PD7 : 7-BIT IN PORT D
PE0~PE7 : 8-BIT OUT PORT E
PF0~PF7 : 8-BIT OUT PORT F
PG0~PG7 : 8-BIT I/O PORT G
RESET : RESET IN
STBY : STANDBY IN
INT : INTERRUPT IN
INT2 : INTERRUPT IN
TIMER : TIMER CONTROL IN
XTAL : CRYSTAL
EXTAL : EXTERNAL CRYSTAL IN
CK : SERIAL INTERFACE CLOCK I/O
RX : SERIAL DATA RECEIVE
TX : SERIAL DATA TRANSMIT

LM2903M (RAYTHEON) FLAT PACKAGE
DUAL VOLTAGE COMPARATORS
- TOP VIEW -


8
7
6
5
Vcc (+2 to +36V)
GND
1
2
3
4

MC14052BF (MOTOROLA) FLAT PACKAGE

C-MOS DUAL 4-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER
- TOP VIEW -


Y0 IN/OUT 1
Y2 IN/OUT 2
YC IN/OUT 3
Y3 IN/OUT 4
Y1 IN/OUT 5
EN IN 6
7 VEE*
8 GND
VDD (+3 to +18V) 16
15 X2 IN/OUT
14 X1 IN/OUT
13 XC IN/OUT
12 X0 IN/OUT
11 X3 IN/OUT
10 A IN
9 B IN
12 X0
14 X1
15 X2
11 X3
OPEN
XC 13
1 Y0
5 Y1
2 Y2
4 Y3
OPEN
YC 3
10 A
9 B
EN 6
VEE 7

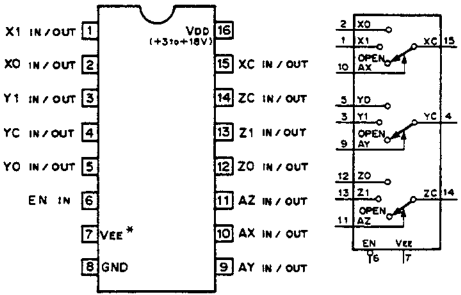
EE*; VDD − VEE = +3 to +18V

CONTROL INPUTS			"ON" CHANNEL
EN	B	A	
0	0	0	0
0	0	1	1
0	1	0	2
0	1	1	3
1	X	X	OPEN

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

MC14053BF (MOTOROLA) FLAT PACKAGE

C-MOS TRIPLE 2-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER
- TOP VIEW -


X1 IN/OUT 1
X0 IN/OUT 2
Y1 IN/OUT 3
YC IN/OUT 4
Y0 IN/OUT 5
EN IN 6
7 VEE*
8 GND
VDD (+3 to +18V) 16
15 XC IN/OUT
14 ZC IN/OUT
13 Z1 IN/OUT
12 Z0 IN/OUT
11 AZ IN/OUT
10 AX IN/OUT
9 AY IN/OUT
2 X0
1 X1
OPEN
10 AX
XC 15
5 Y0
3 Y1
OPEN
9 AY
YC 4
12 Z0
13 Z1
OPEN
11 AZ
ZC 14
EN 6
VEE 7

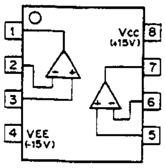
VEE*; VDD − VEE = +3 to +18V

CONT. INPUTS		ON CHANNEL
EN	A (X,Y,Z,)	
0	0	0
0	1	1
1	X	OPEN

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

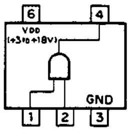
RC2043MD (RAYTHEON) FLAT PACKAGE

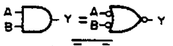
OPERATIONAL AMPLIFIER
- TOP VIEW -


1
2
3
4
VEE (-15V)
Vcc (+15V)
8
7
6
5

TC4S81F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT AND GATE
- TOP VIEW -


6
4
VDD (+3 to +18V)
GND
1
2
3



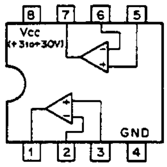
$Y = A \cdot B = \overline{\overline{A} + \overline{B}}$

A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0: LOW LEVEL
1: HIGH LEVEL

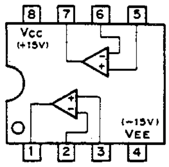
uPC358G2 (NEC) FLAT PACKAGE

DUAL OPERATIONAL AMPLIFIERS
- TOP VIEW -


8
7
6
5
Vcc (+3 to +30V)
GND
1
2
3
4

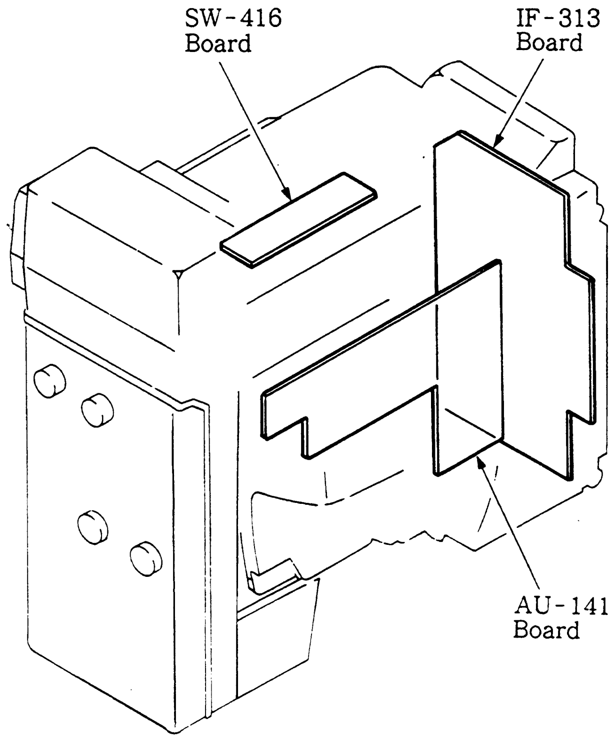
uPC4558G2 (NEC) FLAT PACKAGE

OPERATIONAL AMPLIFIER
- TOP VIEW -


8
7
6
5
Vcc (+15V)
(−15V) VEE
1
2
3
4

SECTION C

SCHEMATIC DIAGRAMS AND BOARD ILLUSTRATIONS


SW-416
Board
IF-313
Board
AU-141
Board

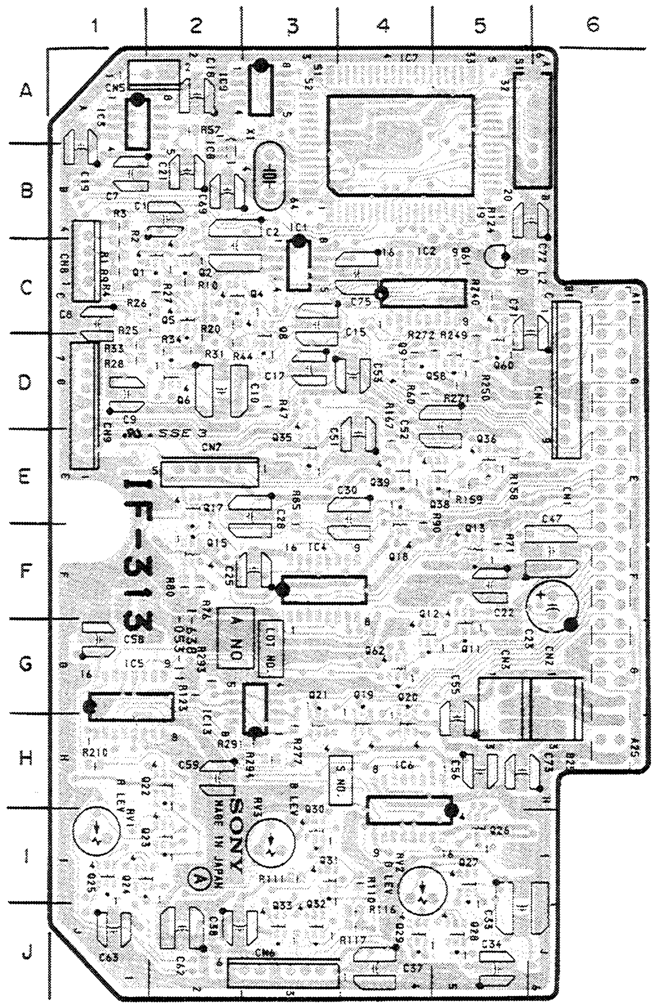
CA-537 (J,UC)
CA-537P(EK)

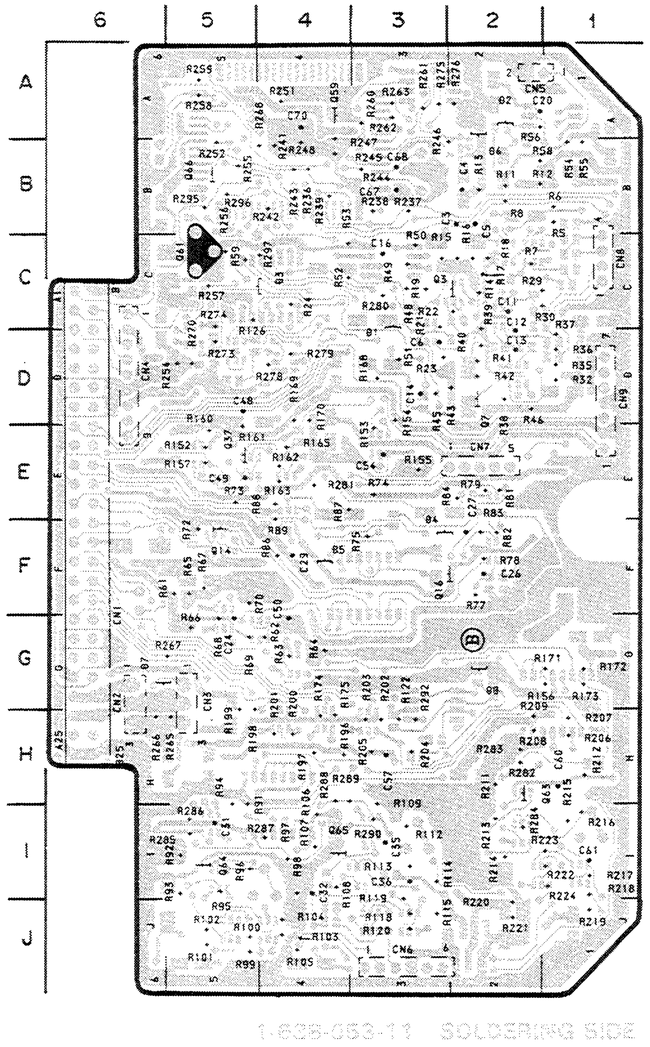
IF-313 BOARD

S/N J ; 30001 through 30170
UC; 10001 through 10430
EK; 40001 through 40200

IF-313(1-638-053-11)

CN1	G-6
CN2	G-6
CN3	G-5
CN4	D-6
CN5	A-1
CN6	J-3
CN7	E-2
CN8	C-1
CN9	E-1
D1	D-3
D2	A-2
D3	C-4
D4	F-3
D5	F-4
D6	B-2
D7	G-6
D8	G-2
IC1	B-3
IC2	C-4
IC3	A-1
IC4	F-3
IC5	G-1
IC6	H-4
IC7	A-4
IC8	B-2
IC9	A-2
IC13	G-2
L2	C-6
Q1	C-1
Q2	C-2
Q3	C-3
Q4	C-3
Q5	C-2
Q6	D-2
Q7	D-2
Q8	C-3
Q9	D-4
Q11	G-5
Q12	F-4
Q13	F-5
Q14	F-5
Q15	F-2
Q16	F-3
Q17	E-2
Q18	F-4
Q19	G-4
Q20	G-4
Q21	G-3
Q22	H-1
Q23	I-1
Q24	I-1
Q25	I-1
Q26	I-5
Q27	I-5
Q28	J-5
Q29	J-4
Q30	I-3
Q31	I-3
Q32	J-3
Q33	J-3
Q35	E-3
Q36	E-5
Q37	E-5
Q38	E-5
Q39	E-4
Q58	D-5
Q59	A-4
Q60	D-5
Q61	C-5
Q62	G-4
Q63	H-1
Q64	I-5
Q65	I-4
Q66	B-5
RV1	I-1
RV2	I-4
RV3	I-3
S1	A-5
X1	A-3





IF-313(1-638-053-11)

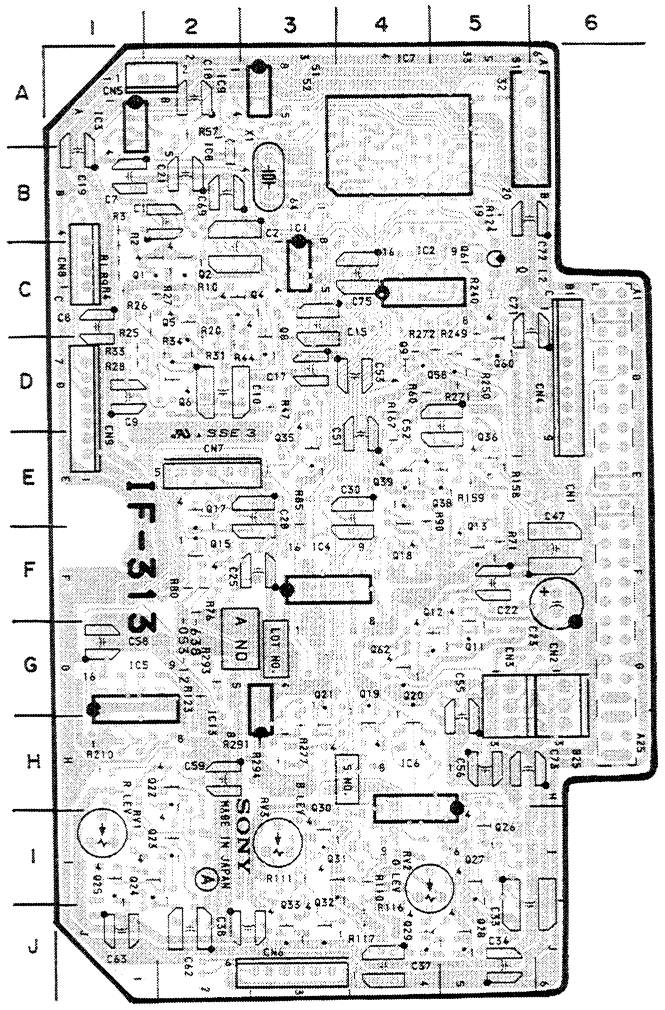
CN1	G-6
CN2	G-6
CN3	G-5
CN4	D-6
CN5	A-1
CN6	J-3
CN7	E-2
CN8	C-1
CN9	E-1
D1	D-3
D2	A-2
D3	C-4
D4	F-3
D5	F-4
D6	B-2
D7	G-6
D8	G-2
IC1	B-3
IC2	C-4
IC3	A-1
IC4	F-3
IC5	G-1
IC6	H-4
IC7	A-4
IC8	B-2
IC9	A-2
IC13	G-2
L2	C-6
Q1	C-1
Q2	C-2
Q3	C-3
Q4	C-3
Q5	C-2
Q6	D-2
Q7	D-2
Q8	C-3
Q9	D-4
Q11	G-5
Q12	F-4
Q13	F-5
Q14	F-5
Q15	F-2
Q16	F-3
Q17	E-2
Q18	F-4
Q19	G-4
Q20	G-4
Q21	G-3
Q22	H-1
Q23	I-1
Q24	I-1
Q25	I-1
Q26	I-5
Q27	I-5
Q28	J-5
Q29	J-4
Q30	I-3
Q31	I-3
Q32	J-3
Q33	J-3
Q35	E-3
Q36	E-5
Q37	E-5
Q38	E-5
Q39	E-4
Q58	D-5
Q59	A-4
Q60	D-5
Q61	C-5
Q62	G-4
Q63	H-1
Q64	I-5
Q65	I-4
Q66	B-5
RV1	I-1
RV2	I-4
RV3	I-3
S1	A-5
X1	A-3

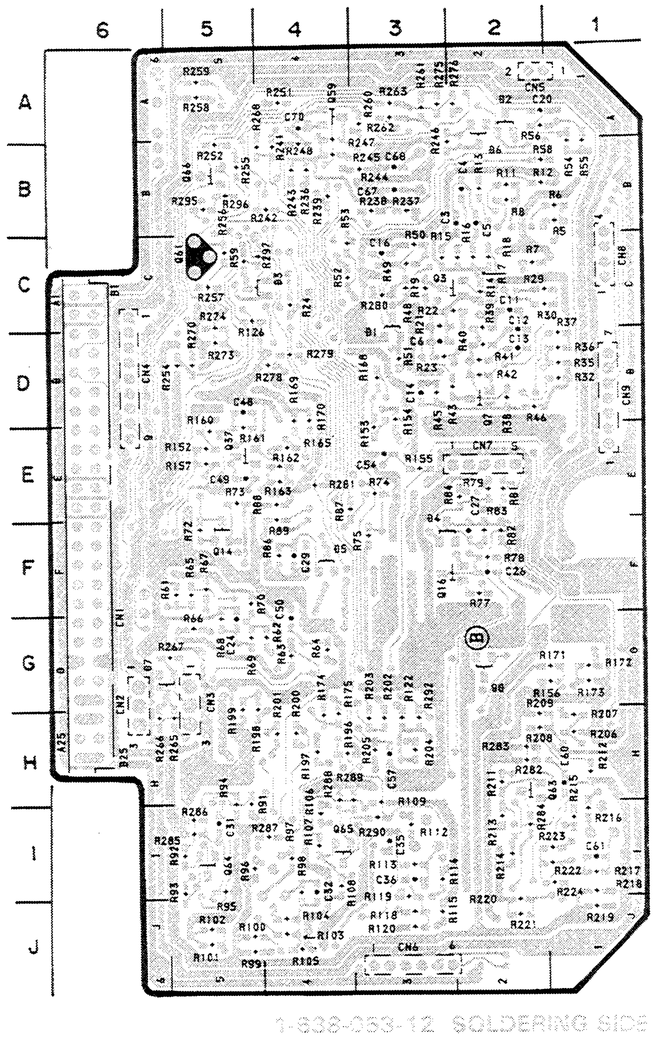
IF-313 BOARD

S/N J ; 30171 and higher
UC; 10431 and higher
EK; 40201 and higher

IF-313(1-638-053-12)

CN1	G-6
CN2	G-6
CN3	G-5
CN4	D-6
CN5	A-1
CN6	J-3
CN7	E-2
CN8	C-1
CN9	E-1
D1	D-3
D2	A-2
D3	C-4
D4	F-3
D5	F-4
D6	B-2
D7	G-6
D8	G-2
IC1	B-3
IC2	C-4
IC3	A-1
IC4	F-3
IC5	G-1
IC6	H-4
IC7	A-4
IC8	B-2
IC9	A-2
IC13	G-2
L2	C-6
Q1	C-1
Q2	C-2
Q3	C-3
Q4	C-3
Q5	C-2
Q6	D-2
Q7	D-2
Q8	C-3
Q9	D-4
Q11	G-5
Q12	F-4
Q13	F-5
Q14	F-5
Q15	F-2
Q16	F-3
Q17	E-2
Q18	F-4
Q19	G-4
Q20	G-4
Q21	G-3
Q22	H-1
Q23	I-1
Q24	I-1
Q25	I-1
Q26	I-5
Q27	I-5
Q28	J-5
Q29	J-4
Q30	I-3
Q31	I-3
Q32	J-3
Q33	J-3
Q35	E-3
Q36	E-5
Q37	E-5
Q38	E-5
Q39	E-4
Q58	D-5
Q59	A-4
Q60	D-5
Q61	C-5
Q62	G-4
Q63	H-1
Q64	I-5
Q65	I-4
Q66	B-5
RV1	I-1
RV2	I-4
RV3	I-3
S1	A-5
X1	A-3





IF-313(1-638-053-12)

CN1	G-6
CN2	G-6
CN3	G-5
CN4	D-6
CN5	A-1
CN6	J-3
CN7	E-2
CN8	C-1
CN9	E-1
D1	D-3
D2	A-2
D3	C-4
D4	F-3
D5	F-4
D6	B-2
D7	G-6
D8	G-2
IC1	B-3
IC2	C-4
IC3	A-1
IC4	F-3
IC5	G-1
IC6	H-4
IC7	A-4
IC8	B-2
IC9	A-2
IC13	G-2
L2	C-6
Q1	C-1
Q2	C-2
Q3	C-3
Q4	C-3
Q5	C-2
Q6	D-2
Q7	D-2
Q8	C-3
Q9	D-4
Q11	G-5
Q12	F-4
Q13	F-5
Q14	F-5
Q15	F-2
Q16	F-3
Q17	E-2
Q18	F-4
Q19	G-4
Q20	G-4
Q21	G-3
Q22	H-1
Q23	I-1
Q24	I-1
Q25	I-1
Q26	I-5
Q27	I-5
Q28	J-5
Q29	J-4
Q30	I-3
Q31	I-3
Q32	J-3
Q33	J-3
Q35	E-3
Q36	E-5
Q37	E-5
Q38	E-5
Q39	E-4
Q58	D-5
Q59	A-4
Q60	D-5
Q61	C-5
Q62	G-4
Q63	H-1
Q64	I-5
Q65	I-4
Q66	B-5
RV1	I-1
RV2	I-4
RV3	I-3
S1	A-5
X1	A-3

IF-313 BOARD

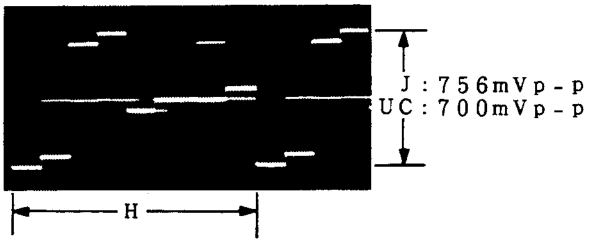
注意：

1. DC電圧はデジタル電圧計による値。
2. 波形写真、及びDC電圧は下記条件での測定。
   - 本機を DXC-537に接続する。
   - OUTPUT　: BARS
   - GAIN　: 0dB
   - WHITE BAL　: PRE
   - SHUTTER　: OFF
   - ZEBRA MARKER　: OFF OFF
   - PHASE　: 0°
3. *はUCモデルの波形です。Jモデルのものは、セットアップレベルがゼロになっています。

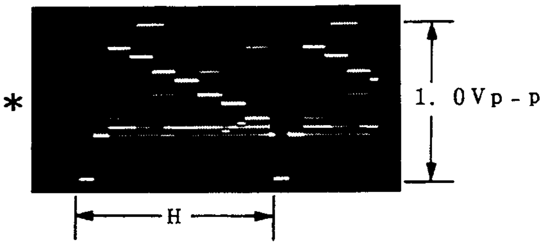
NOTE:

1. All voltage are DC, measured with a digital voltmeter.
2. All waveforms are taken and DC voltage is measured in condition below.
   - Connect the camera adapter to the camera DXC-537.
   - OUTPUT　: BARS
   - GAIN　: 0dB
   - WHITE BAL　: PRE
   - SHUTTER　: OFF
   - ZEBRA MARKER　: OFF OFF
   - PHASE　: 0°
3. The waveform marked with * is for UCmodel.
   For J model, the setup level is set to "0" at factory.

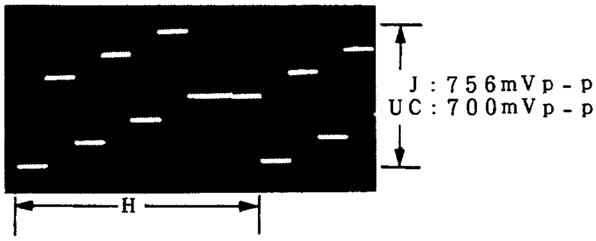
CN1-B16pin
R-Y



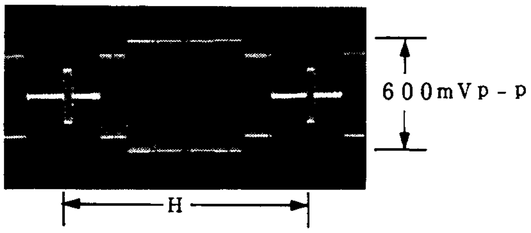
CN1-A17pin
Y



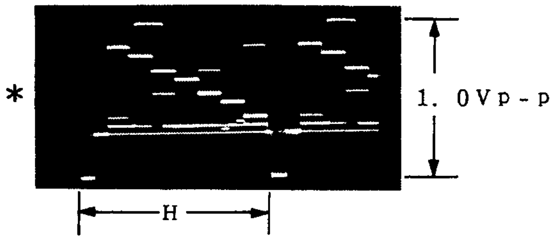
CN1-B17pin
B-Y



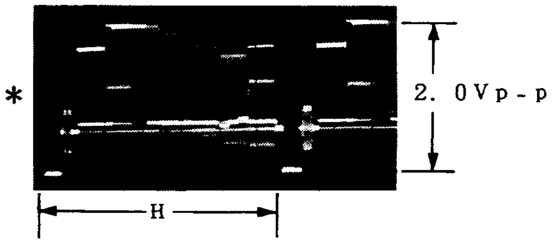
CN1-B14pin
CHROMA



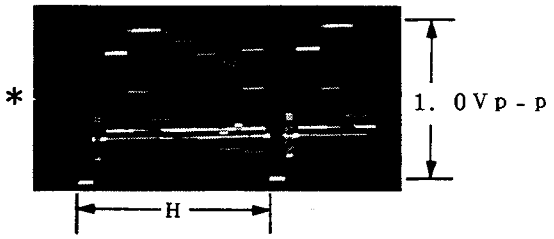
CN1-B15pin
LUMINANCE



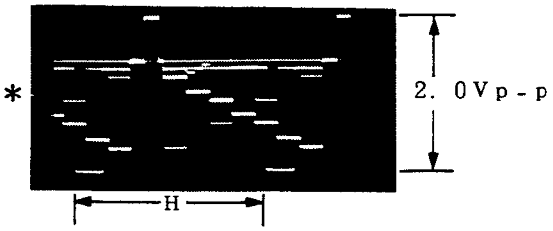
CN1-B12pin
VBS



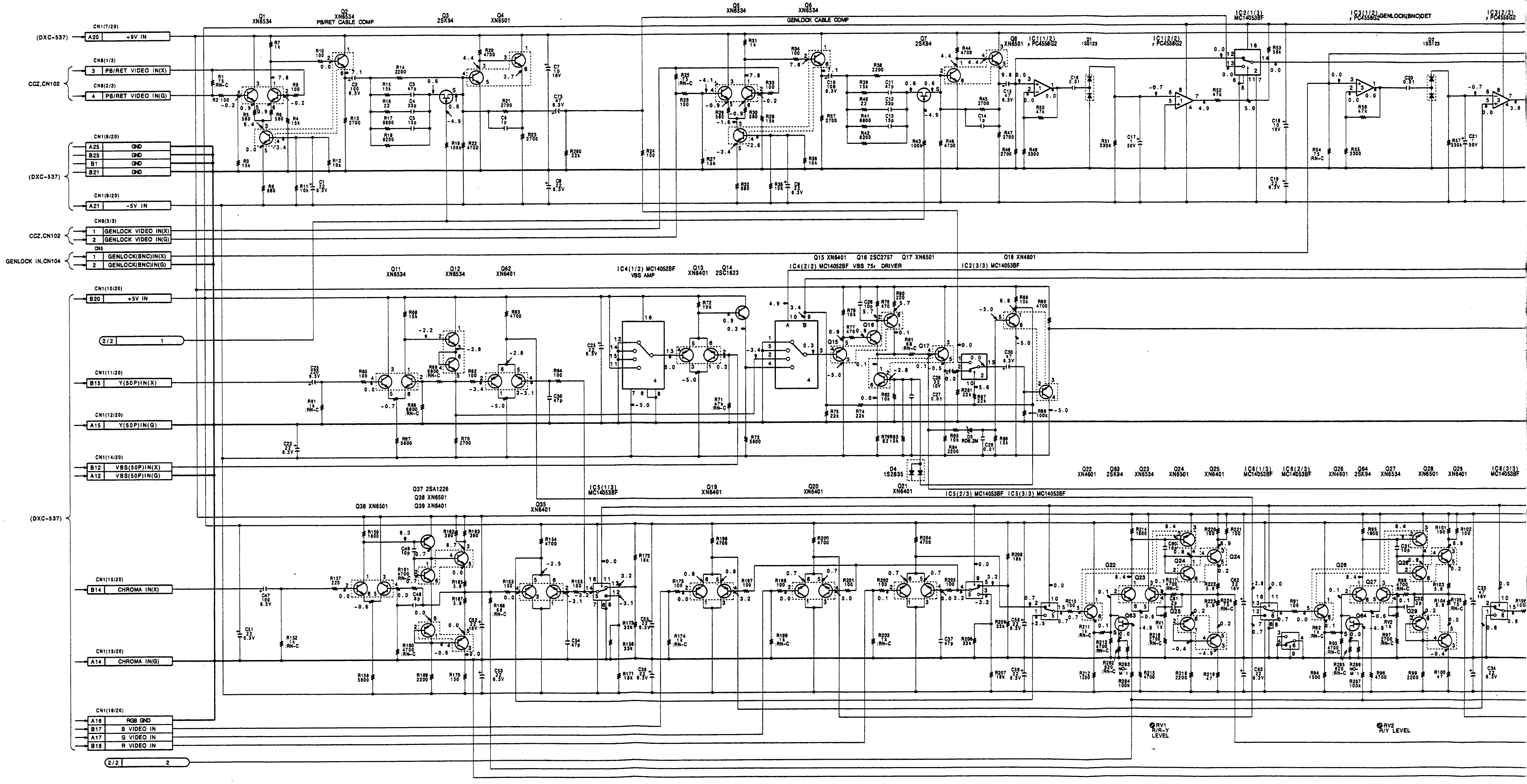
CN7-4pin
VBS



Q12-5pin
Y



IF-313 BOARD(1/2)

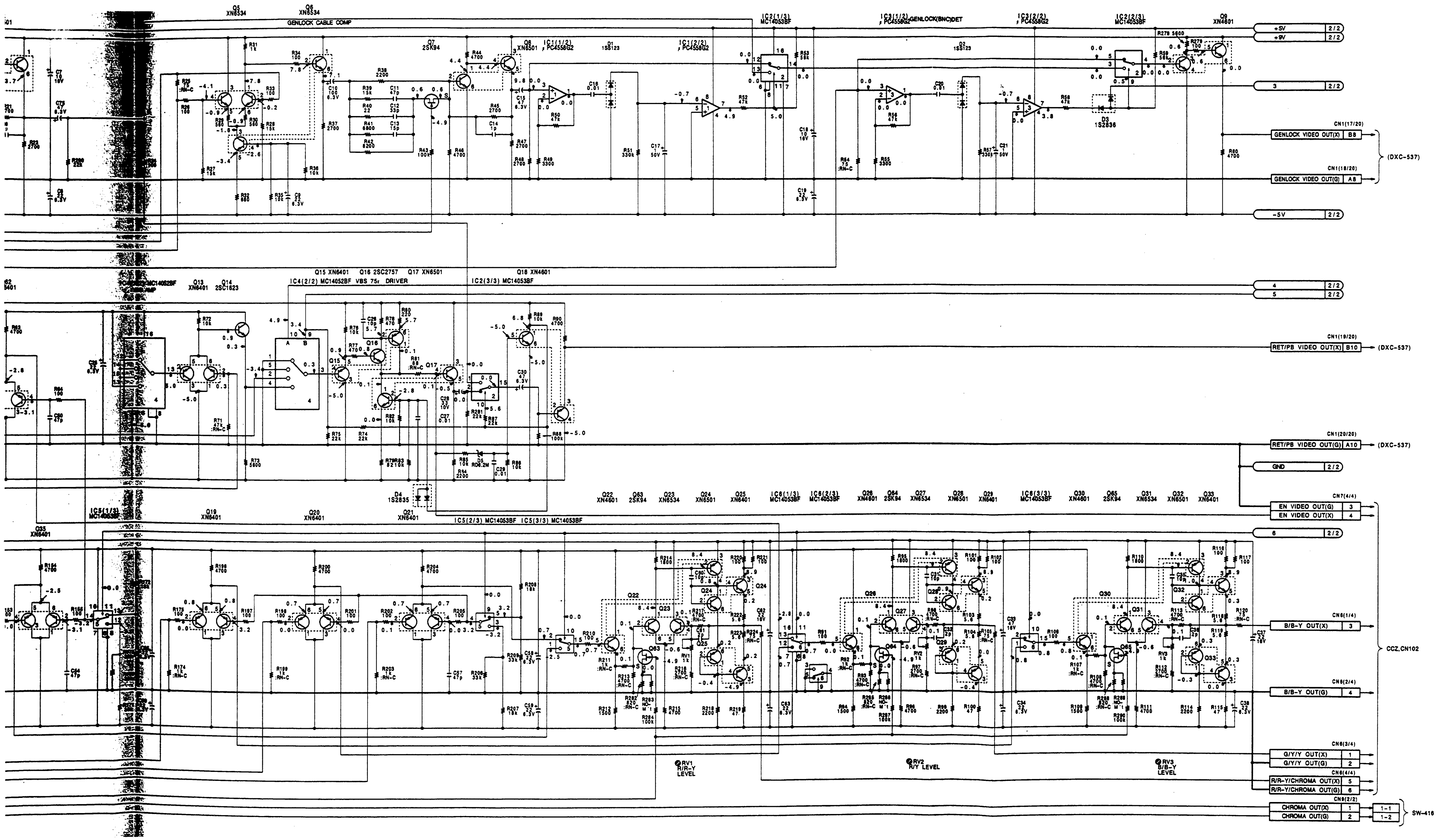

(DXC-537)
CN1(7/20)
A20 +9V IN
CCZ,CN102
CN8(1/3)
3 PB/RET VIDEO IN(X)
CN8(2/3)
4 PB/RET VIDEO IN(G)
CN1(8/20)
A25 GND
B25 GND
B1 GND
B21 GND
CN1(9/20)
A21 -5V IN
CN8(3/3)
1 GENLOCK VIDEO IN(X)
2 GENLOCK VIDEO IN(G)
GENLOCK IN,CN104
CN5
1 GENLOCK(BNC)IN(X)
2 GENLOCK(BNC)IN(G)
CN1(10/20)
B20 +5V IN
2/2 1
CN1(11/20)
B15 Y(50P)IN(X)
CN1(12/20)
A15 Y(50P)IN(G)
CN1(14/20)
B12 VBS(50P)IN(X)
A12 VBS(50P)IN(G)
CN1(15/20)
B14 CHROMA IN(X)
CN1(13/20)
A14 CHROMA IN(G)
CN1(16/20)
A16 RGB GND
B17 B VIDEO IN
A17 G VIDEO IN
B16 R VIDEO IN
2/2 2
Q1 XN6534
Q2 XN6534 PB/RET CABLE COMP
Q3 2SK94
Q4 XN6501
Q5 XN6534
Q6 XN6534 GENLOCK CABLE COMP
Q7 2SK94
Q8 XN6501
IC1(1/2) μPC4558G2
D1 1SS123
IC1(2/2) μPC4558G2
IC2(1/3) MC14053BF
IC3(1/2) μPC4558G2 GENLOCK(BNC)DET
D2 1SS123
IC3(2/2) μPC4558G2
Q11 XN6534
Q12 XN6534
Q62 XN6401
IC4(1/2) MC14052BF VBS AMP
Q13 XN6401
Q14 2SC1623
Q15 XN6401 Q16 2SC2757 Q17 XN6501
IC4(2/2) MC14052BF VBS 75Ω DRIVER
Q18 XN4601
IC2(3/3) MC14053BF
D4 1S2835
Q21 XN6401
IC5(2/3) MC14053BF IC5(3/3) MC14053BF
Q37 2SA1226
Q38 XN6501
Q39 XN6401
Q36 XN6501
Q35 XN6401
IC5(1/3) MC14053BF
Q19 XN6401
Q20 XN6401
Q22 XN4601
Q63 2SK94
Q23 XN6534
Q24 XN6501
Q25 XN6401
IC6(1/3) MC14053BF
IC6(2/3) MC14053BF
Q26 XN4601
Q64 2SK94
Q27 XN6534
Q28 XN6501
Q29 XN6401
IC6(3/3) MC14053BF
RV1 R/R-Y LEVEL
RV2 R/Y LEVEL

CA-537 (J,UC)
CA-537P(EK)

C-7

C-8

A | B | C | D | E | F | G | H | I


Q5 XN6534
Q6 XN6534
GENLOCK CABLE COMP
Q7 2SK94
Q8 XN6501
IC1(1/2) μPC4558G2
D1 1SS123
IC1(2/2) μPC4558G2
IC2(1/3) MC14053BF
IC3(1/2) μPC4558G2 GENLOCK(BNC)DET
D2 1SS123
IC3(2/2) μPC4558G2
IC2(2/3) MC14053BF
D3 1S2836
Q9 XN4601
Q13 XN6401
Q14 2SC1623
Q15 XN6401
Q16 2SC2757
Q17 XN6501
Q18 XN4601
IC4(2/2) MC14052BF VBS 75Ω DRIVER
IC2(3/3) MC14053BF
D4 1S2835
Q19 XN6401
Q20 XN6401
Q21 XN6401
Q35 XN6401
IC5(1/3) MC14053BF
IC5(2/3) MC14053BF
IC5(3/3) MC14053BF
Q22 XN4601
Q63 2SK94
Q23 XN6534
Q24 XN6501
Q25 XN6401
IC6(1/3) MC14053BF
IC6(2/3) MC14053BF
Q26 XN4601
Q64 2SK94
Q27 XN6534
Q28 XN6501
Q29 XN6401
IC6(3/3) MC14053BF
Q30 XN4601
Q65 2SK94
Q31 XN6534
Q32 XN6501
Q33 XN6401
RV1 R/R-Y LEVEL
RV2 R/Y LEVEL
RV3 B/B-Y LEVEL
+5V 2/2
+9V 2/2
3 2/2
CN1(17/20) GENLOCK VIDEO OUT(X) B8
CN1(18/20) GENLOCK VIDEO OUT(G) A8
(DXC-537)
-5V 2/2
4 2/2
5 2/2
CN1(19/20) RET/PB VIDEO OUT(X) B10
(DXC-537)
CN1(20/20) RET/PB VIDEO OUT(G) A10
(DXC-537)
GND 2/2
CN7(4/4)
EN VIDEO OUT(G) 3
EN VIDEO OUT(X) 4
6 2/2
CN6(1/4) B/B-Y OUT(X) 3
CN6(2/4) B/B-Y OUT(G) 4
CCZ,CN102
CN6(3/4)
G/Y/Y OUT(X) 1
G/Y/Y OUT(G) 2
CN6(4/4)
R/R-Y/CHROMA OUT(X) 5
R/R-Y/CHROMA OUT(G) 6
CN9(2/2)
CHROMA OUT(X) 1 1-1
CHROMA OUT(G) 2 1-2
SW-416

IF-313 BOARD (1/2)

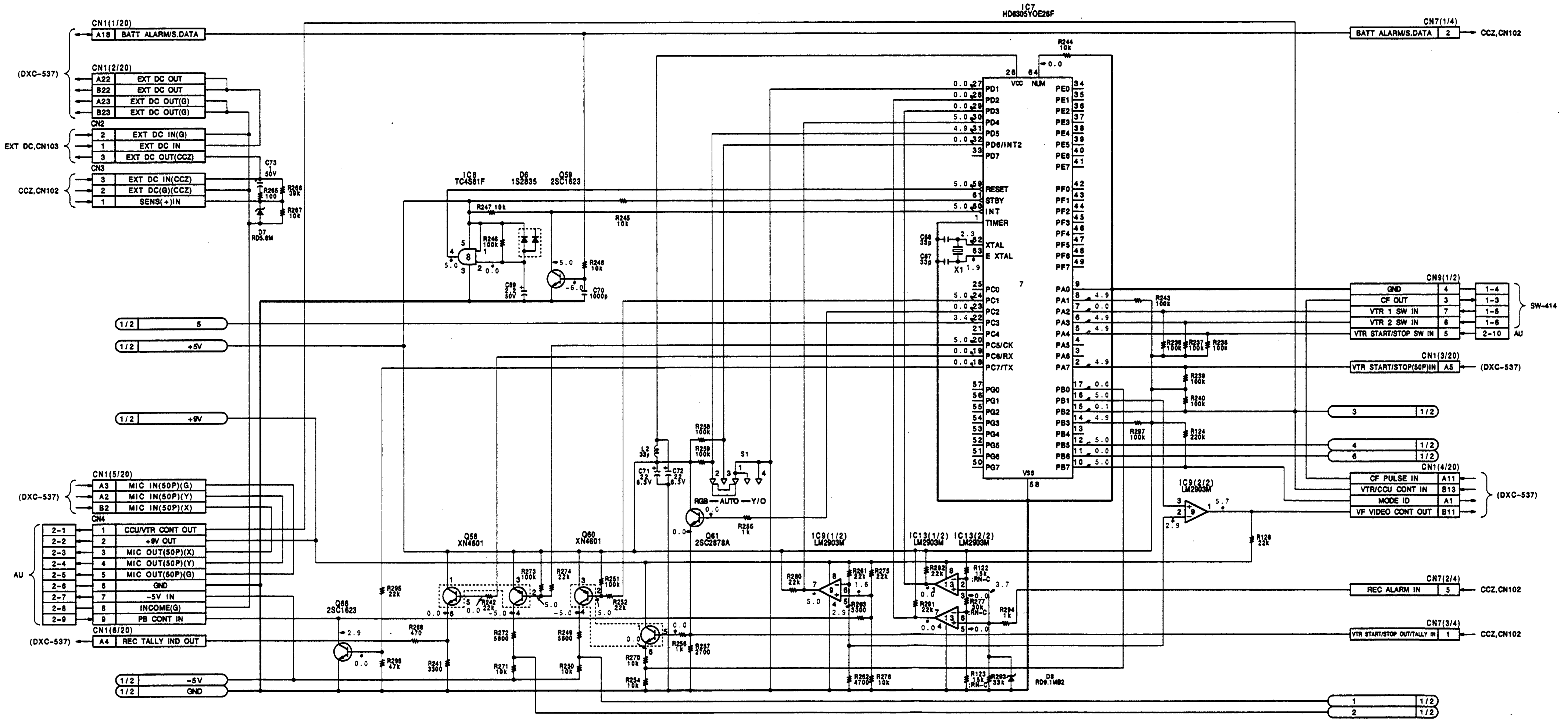
CA-537 (J,UC)
CA-537P (EK)

1
2
3
4
5

C-8 C-9

E F G H I J K L

IF-313 BOARD(2/2)


CN1(1/20)
A18 BATT ALARM/S.DATA
(DXC-537)
CN1(2/20)
A22 EXT DC OUT
B22 EXT DC OUT
A23 EXT DC OUT(G)
B23 EXT DC OUT(G)
CN2
EXT DC,CN103
2 EXT DC IN(G)
1 EXT DC IN
3 EXT DC OUT(CCZ)
CN3
CCZ,CN102
3 EXT DC IN(CCZ)
2 EXT DC(G)(CCZ)
1 SENS(+)IN
C73 1 50V
R265 100
R266 39k
R267 10k
D7 RD5.6M
1/2 5
1/2 +5V
1/2 +9V
CN1(5/20)
A3 MIC IN(50P)(G)
A2 MIC IN(50P)(Y)
B2 MIC IN(50P)(X)
CN4
AU
2-1 1 CCU/VTR CONT OUT
2-2 2 +9V OUT
2-3 3 MIC OUT(50P)(X)
2-4 4 MIC OUT(50P)(Y)
2-5 5 MIC OUT(50P)(G)
2-6 6 GND
2-7 7 -5V IN
2-8 8 INCOME(G)
2-9 9 PB CONT IN
CN1(6/20)
A4 REC TALLY IND OUT
1/2 -5V
1/2 GND
IC8 TC4S81F
D6 1S2835
Q59 2SC1623
R247 10k
R245 10k
R246 100k
R248 10k
C69 2.2 50V
C70 1000p
Q66 2SC1623
Q58 XN4601
Q60 XN4601
Q61 2SC2878A
R295 22k
R298 47k
R268 470
R241 3300
R242 22k
R273 100k
R274 22k
R251 100k
R252 22k
R272 5600
R271 10k
R249 5600
R250 10k
R256 1k
R257 2700
R270 10k
R254 10k
R255 1k
L2 33µ
C71 22 6.3V
C72 22 6.3V
R258 100k
R259 100k
S1
RGB — AUTO — Y/O
IC7
HD6305YOE26F
R244 10k
VCC NUM VSS
PD1 PD2 PD3 PD4 PD5 PD6/INT2 PD7
RESET STBY INT TIMER XTAL E XTAL
PC0 PC1 PC2 PC3 PC4 PC5/CK PC6/RX PC7/TX
PG0 PG1 PG2 PG3 PG4 PG5 PG6 PG7
PE0 PE1 PE2 PE3 PE4 PE5 PE6 PE7
PF0 PF1 PF2 PF3 PF4 PF5 PF6 PF7
PA0 PA1 PA2 PA3 PA4 PA5 PA6 PA7
PB0 PB1 PB2 PB3 PB4 PB5 PB6 PB7
C66 33p
C67 33p
X1
R243 100k
R236 100k
R237 100k
R238 100k
R239 100k
R240 100k
R297 100k
R124 220k
IC9(1/2) LM2903M
IC9(2/2) LM2903M
R126 22k
IC13(1/2) LM2903M
IC13(2/2) LM2903M
R260 22k
R261 22k
R275 22k
R263 3300
R262 4700
R276 10k
R292 22k
R291 22k
R122 15k :RN-C
R277 30k :RN-C
R123 15k :RN-C
R293 33k
R294 1k
D8 RD9.1MB2
CN7(1/4)
BATT ALARM/S.DATA 2
CCZ,CN102
CN9(1/2)
GND 4 1-4
CF OUT 3 1-3
VTR 1 SW IN 7 1-5
VTR 2 SW IN 6 1-6
VTR START/STOP SW IN 5 2-10
SW-414
AU
CN1(3/20)
VTR START/STOP(50P)IN A5
(DXC-537)
3 1/2
4 1/2
6 1/2
CN1(4/20)
CF PULSE IN A11
VTR/CCU CONT IN B13
MODE ID A1
VF VIDEO CONT OUT B11
(DXC-537)
CN7(2/4)
REC ALARM IN 5
CCZ,CN102
CN7(3/4)
VTR START/STOP OUT/TALLY IN 1
CCZ,CN102
1 1/2
2 1/2

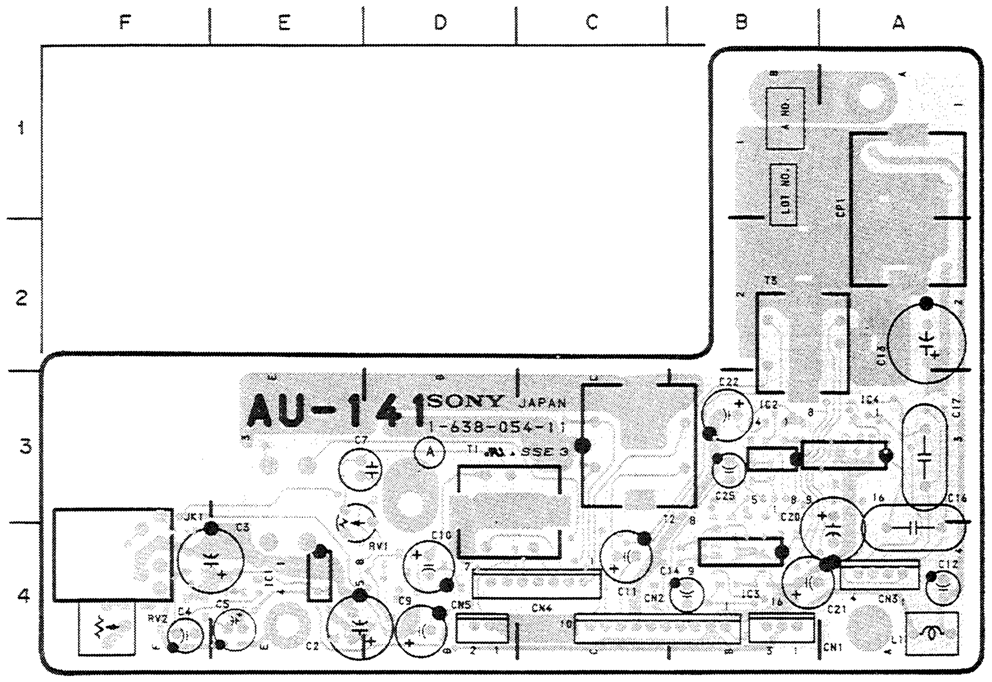
IF-313 BOARD(2/2)
CA-537(J,UC)
CA-537P(EK)

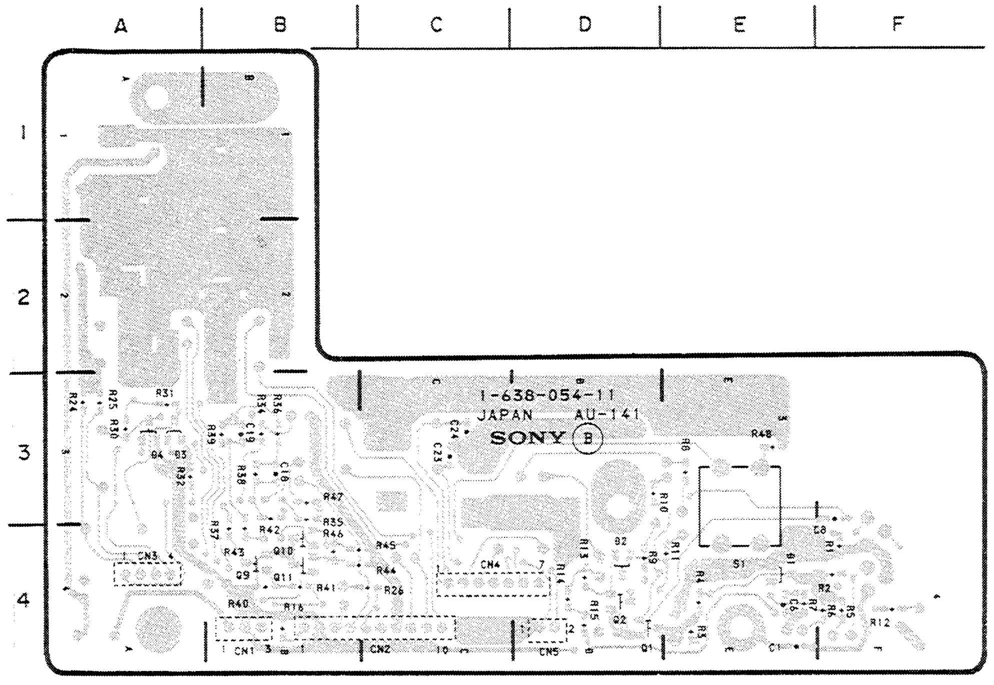
CA-537 (J,UC)
CA-537P(EK)

S/N J ; 30001 through 30170
UC; 10001 through 10430
EK; 40001 through 40200

AU-141 BOARD

AU-141(1-638-054-11)	
CN1	A-4
CN2	C-4
CN3	A-4
CN4	C-4
CN5	D-4
CP1	A-1
D1	E-4
D2	D-4
D3	A-3
D4	A-3
IC1	E-4
IC2	B-3
IC3	B-4
IC4	A-3
L1	A-4
Q1	D-4
Q2	D-4
Q9	B-4
Q10	B-4
Q11	B-4
RV1	D-4
RV2	F-4
S1	E-4
T1	D-3
T2	C-3
T3	B-2

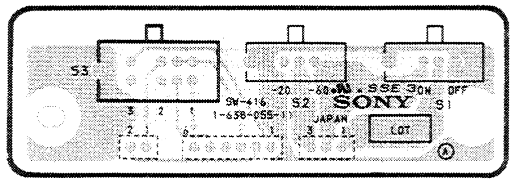

F
E
D
C
B
A
1
2
3
4
AU-141 SONY JAPAN
1-638-054-11
SSE 3
A NO.
LOT NO.
CP1
T3
IC2
IC4
C18
C17
C22
C7
T1
T2
C25
C20
C16
JK1
C3
RV1
C10
C14
C12
RV2
C4
C5
C2
C9
CN5
CN4
C11
CN2
IC3
C21
CN3
CN1
L1

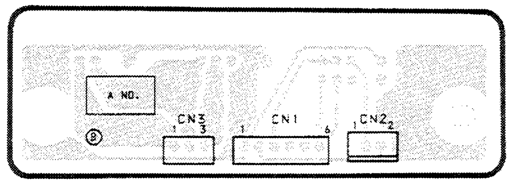

A
B
C
D
E
F
1
2
3
4
1-638-054-11
JAPAN AU-141
SONY
CN3
CN4
CN1
CN2
CN5
S1
R12

1-638-054-11 SOLDERING SIDE

AU-141(1-638-054-11)	
CN1	A-4
CN2	C-4
CN3	A-4
CN4	C-4
CN5	D-4
CP1	A-1
D1	E-4
D2	D-4
D3	A-3
D4	A-3
IC1	E-4
IC2	B-3
IC3	B-4
IC4	A-3
L1	A-4
Q1	D-4
Q2	D-4
Q9	B-4
Q10	B-4
Q11	B-4
RV1	D-4
RV2	F-4
S1	E-4
T1	D-3
T2	C-3
T3	B-2

SW-416 BOARD


S3
-20
-60
SSE 3
ON
OFF
SW-416
S2
SONY
S1
1-638-055-11
JAPAN
LOT


A NO.
CN3
CN1
CN2

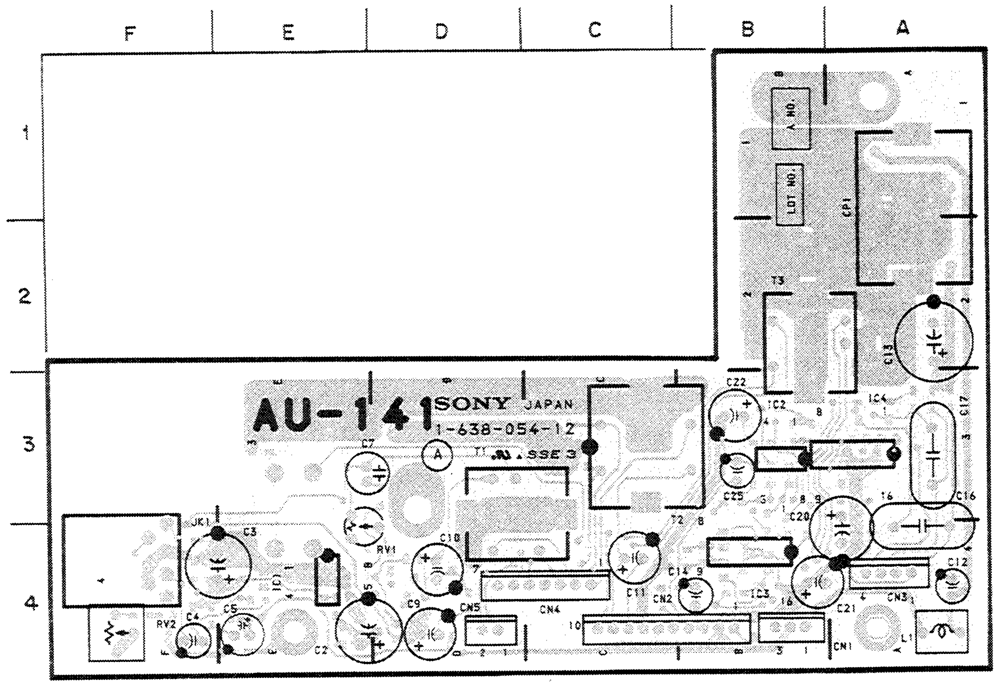
1-638-055-11 SOLDERING SIDE

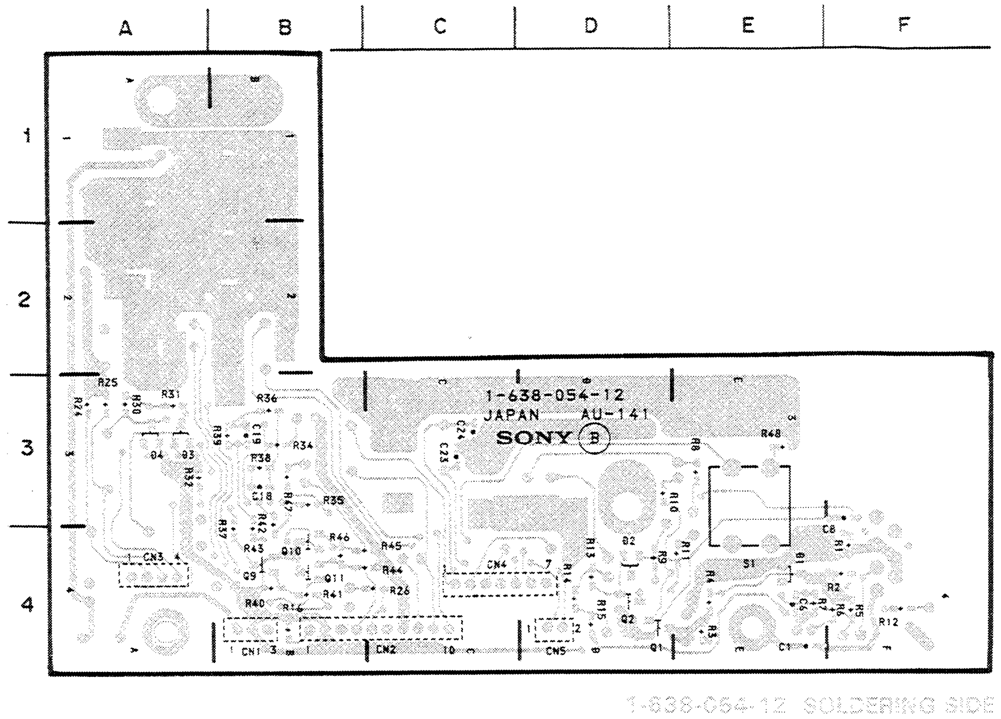
AU-141 SW-416 FRAME ▤ FRAME AU-141 SW-416

S/N J; 30171 and higher
UC; 10431 and higher
EK; 40201 and higher

AU-141 BOARD

AU-141(1-638-054-12)	
CN1	A-4
CN2	C-4
CN3	A-4
CN4	C-4
CN5	D-4
CP1	A-1
D1	E-4
D2	D-4
D3	A-3
D4	A-3
IC1	E-4
IC2	B-3
IC3	B-4
IC4	A-3
L1	A-4
Q1	D-4
Q2	D-4
Q9	B-4
Q10	B-4
Q11	B-4
RV1	D-4
RV2	F-4
S1	E-4
T1	D-3
T2	C-3
T3	B-2

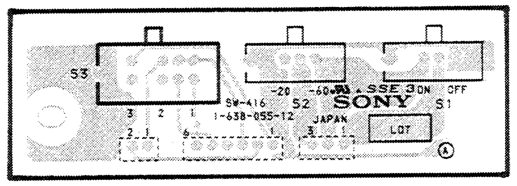

F
E
D
C
B
A
1
2
3
4
AU-141
SONY JAPAN
1-638-054-12
SSE 3
A
LOT NO.
A NO.
CP1
T3
T1
T2
C13
C17
IC2
IC4
C22
C25
C20
C16
C12
C7
RV1
C10
C11
CN2
C14
IC3
CN3
C21
CN1
L1
JK1
C3
IC1
RV2
C4
C5
C2
C9
CN5
CN4

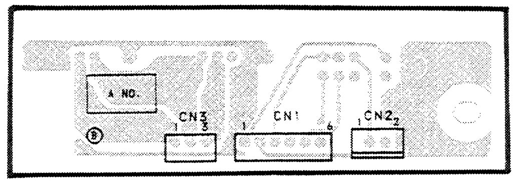

A
B
C
D
E
F
1
2
3
4
1-638-054-12
JAPAN AU-141
SONY
B
R25
R31
R36
R30
R39
C19
R34
Q4
Q3
R32
R38
C18
R35
R37
R43
Q10
R46
R45
Q9
R44
Q11
R40
R41
R26
CN3
CN4
CN1
CN2
CN5
C24
C23
R8
R48
R10
Q2
Q1
S1
C8
R12
C1
R9
R14
R15

1-638-054-12 SOLDERING SIDE

AU-141(1-638-054-12)	
CN1	A-4
CN2	C-4
CN3	A-4
CN4	C-4
CN5	D-4
CP1	A-1
D1	E-4
D2	D-4
D3	A-3
D4	A-3
IC1	E-4
IC2	B-3
IC3	B-4
IC4	A-3
L1	A-4
Q1	D-4
Q2	D-4
Q9	B-4
Q10	B-4
Q11	B-4
RV1	D-4
RV2	F-4
S1	E-4
T1	D-3
T2	C-3
T3	B-2

SW-416 BOARD


S3
-20
-60
SSE 3
ON
OFF
SW-416
S2
S1
SONY
1-638-055-12
JAPAN
LOT
A


A NO.
B
CN3
CN1
CN2

1-638-055-12 SOLDERING SIDE

注意：

1．ＤＣ電圧はデジタル電圧計による値。

2．波形写真、及びＤＣ電圧は下記条件での測定。

•本機を DXC-537に接続する。
•OUTPUT : BARS
•GAIN : 0dB
•WHITE BAL : PRE
•SHUTTER : OFF
•ZEBRA MARKER : OFF OFF
•PHASE : 0°

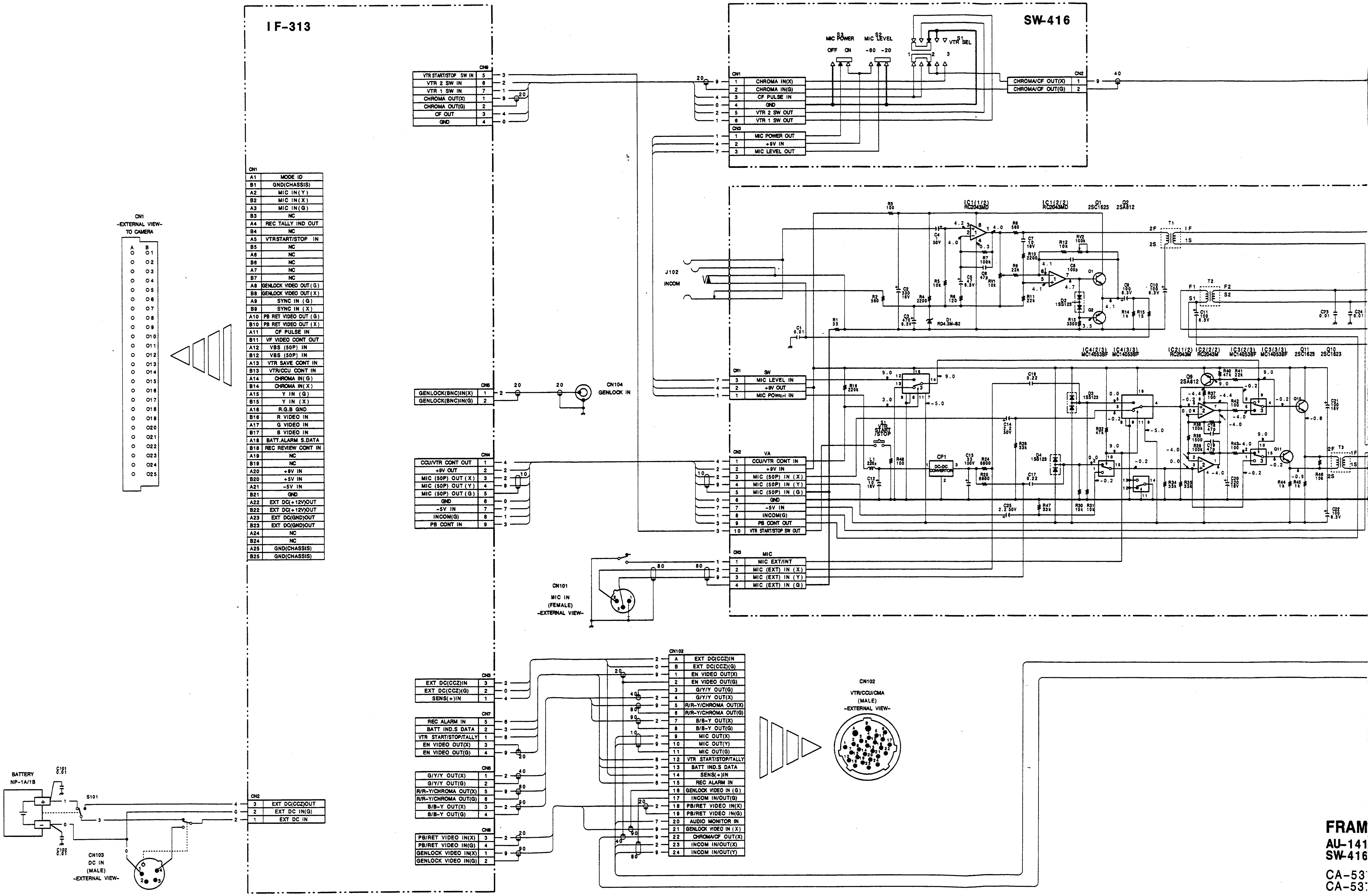
NOTE:

1. All voltage are DC, measured with a digital voltmeter.

2. All waveforms are taken and DC voltage is measured in condition below.

•Connect the camera adapter to the camera DXC-537.
•OUTPUT : BARS
•GAIN : 0dB
•WHITE BAL : PRE
•SHUTTER : OFF
•ZEBRA MARKER : OFF OFF
•PHASE : 0°

FRAME
AU-141 BOARD
SW-416 BOARD


IF-313
SW-416
CN1 -EXTERNAL VIEW- TO CAMERA
CN104 GENLOCK IN
CN101 MIC IN (FEMALE) -EXTERNAL VIEW-
CN102 VTR/CCU/CMA (MALE) -EXTERNAL VIEW-
CN103 DC IN (MALE) -EXTERNAL VIEW-
BATTERY NP-1A/1B
S101
J102 INCOM
S3 MIC POWER
S2 MIC LEVEL
S1 VTR SEL
S1 START /STOP
CP1 DC-DC CONVERTOR
IC1(1/2) RC2043MD
IC1(2/2) RC2043MD
IC4(2/3) MC14053BF
IC4(3/3) MC14053BF
IC2(1/2) RC2043M
IC2(2/2) RC2043M
IC3(2/3) MC14053BF
IC3(3/3) MC14053BF
T1
T2
T3

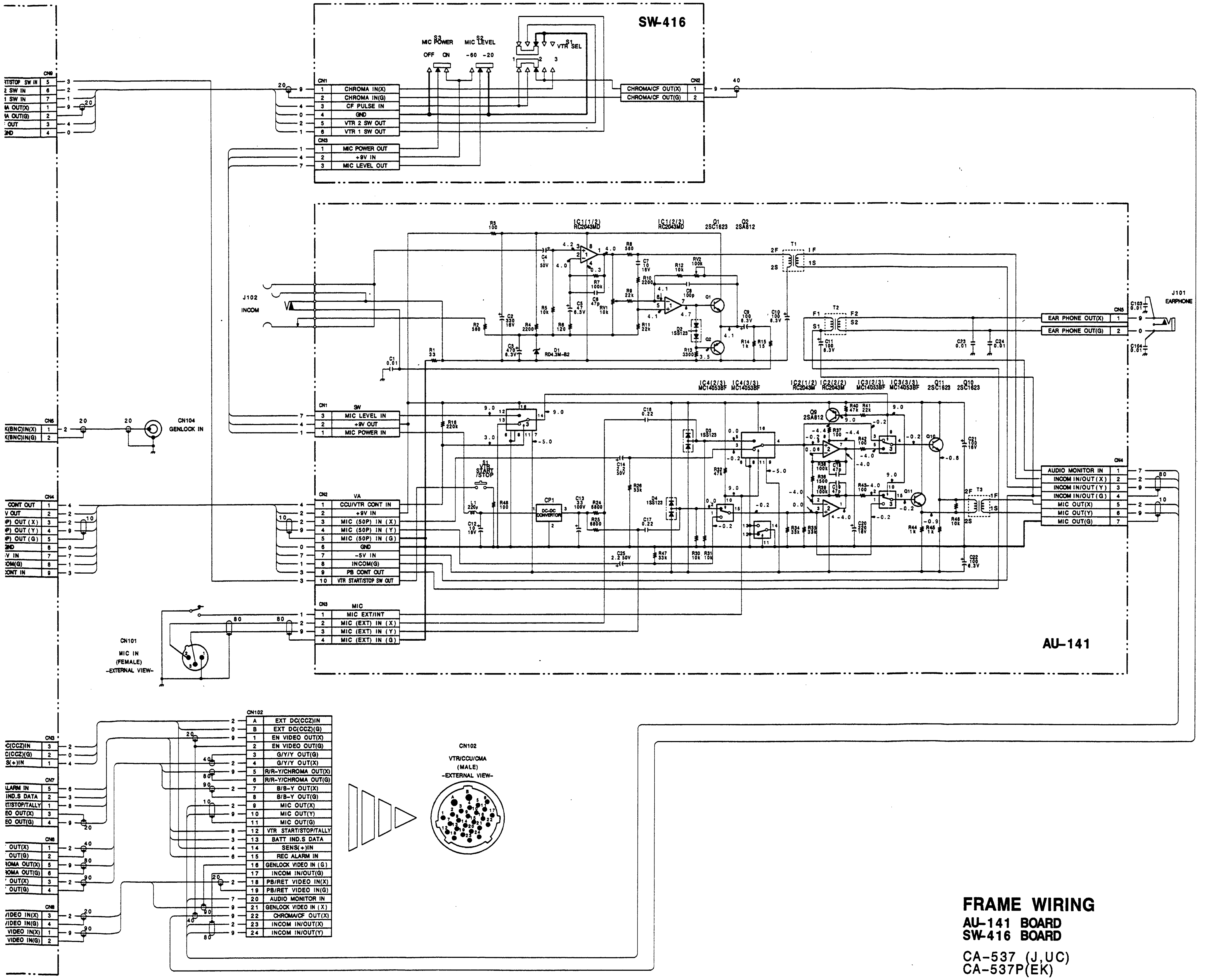
FRAM
AU-141
SW-416
CA-53
CA-53

CA-537 (J,UC)
CA-537P(EK)

C-19

C-20

A | B | C | D | E | F | G | H


SW-416
S3 MIC POWER
OFF ON
S2 MIC LEVEL
-60 -20
S1 VTR SEL
CN1
CHROMA IN(X)
CHROMA IN(G)
CF PULSE IN
GND
VTR 2 SW OUT
VTR 1 SW OUT
CN2
CHROMA/CF OUT(X)
CHROMA/CF OUT(G)
CN3
MIC POWER OUT
+9V IN
MIC LEVEL OUT
AU-141
J102
INCOM
J101
EARPHONE
CN5
EAR PHONE OUT(X)
EAR PHONE OUT(G)
CN104
GENLOCK IN
CN1 SW
MIC LEVEL IN
+9V OUT
MIC POWER IN
CN2 VA
CCU/VTR CONT IN
+9V IN
MIC (50P) IN (X)
MIC (50P) IN (Y)
MIC (50P) IN (G)
GND
-5V IN
INCOM(G)
PB CONT OUT
VTR START/STOP SW OUT
CN3 MIC
MIC EXT/INT
MIC (EXT) IN (X)
MIC (EXT) IN (Y)
MIC (EXT) IN (G)
CN4
AUDIO MONITOR IN
INCOM IN/OUT (X)
INCOM IN/OUT (Y)
INCOM IN/OUT (G)
MIC OUT(X)
MIC OUT(Y)
MIC OUT(G)
CN101
MIC IN
(FEMALE)
-EXTERNAL VIEW-
CN102
EXT DC(CCZ)IN
EXT DC(CCZ)(G)
EN VIDEO OUT(X)
EN VIDEO OUT(G)
G/Y/Y OUT(G)
G/Y/Y OUT(X)
R/R-Y/CHROMA OUT(X)
R/R-Y/CHROMA OUT(G)
B/B-Y OUT(X)
B/B-Y OUT(G)
MIC OUT(X)
MIC OUT(Y)
MIC OUT(G)
VTR START/STOP/TALLY
BATT IND.S DATA
SENS(+)IN
REC ALARM IN
GENLOCK VIDEO IN (G)
INCOM IN/OUT(G)
PB/RET VIDEO IN(X)
PB/RET VIDEO IN(G)
AUDIO MONITOR IN
GENLOCK VIDEO IN (X)
CHROMA/CF OUT(X)
INCOM IN/OUT(X)
INCOM IN/OUT(Y)
CN102
VTR/CCU/CMA
(MALE)
-EXTERNAL VIEW-
IC1(1/2) RC2043MD
IC1(2/2) RC2043MD
Q1 2SC1623
Q2 2SA812
T1
T2
T3
CP1 DC-DC CONVERTOR
IC4(2/3) MC14053BF
IC4(3/3) MC14053BF
IC2(1/2) RC2043M
IC2(2/2) RC2043M
IC3(2/3) MC14053BF
IC3(3/3) MC14053BF
Q11 2SC1623
Q10 2SC1623
Q9 2SA812
S1 VTR START/STOP
1
2
3
4
5

FRAME WIRING
AU-141 BOARD
SW-416 BOARD

CA-537 (J,UC)
CA-537P(EK)

SECTION D
SPARE PARTS

PARTS INFORMATION

1. **Safety Related Component Warning**

   Components indentified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service manual supplements published by Sony.

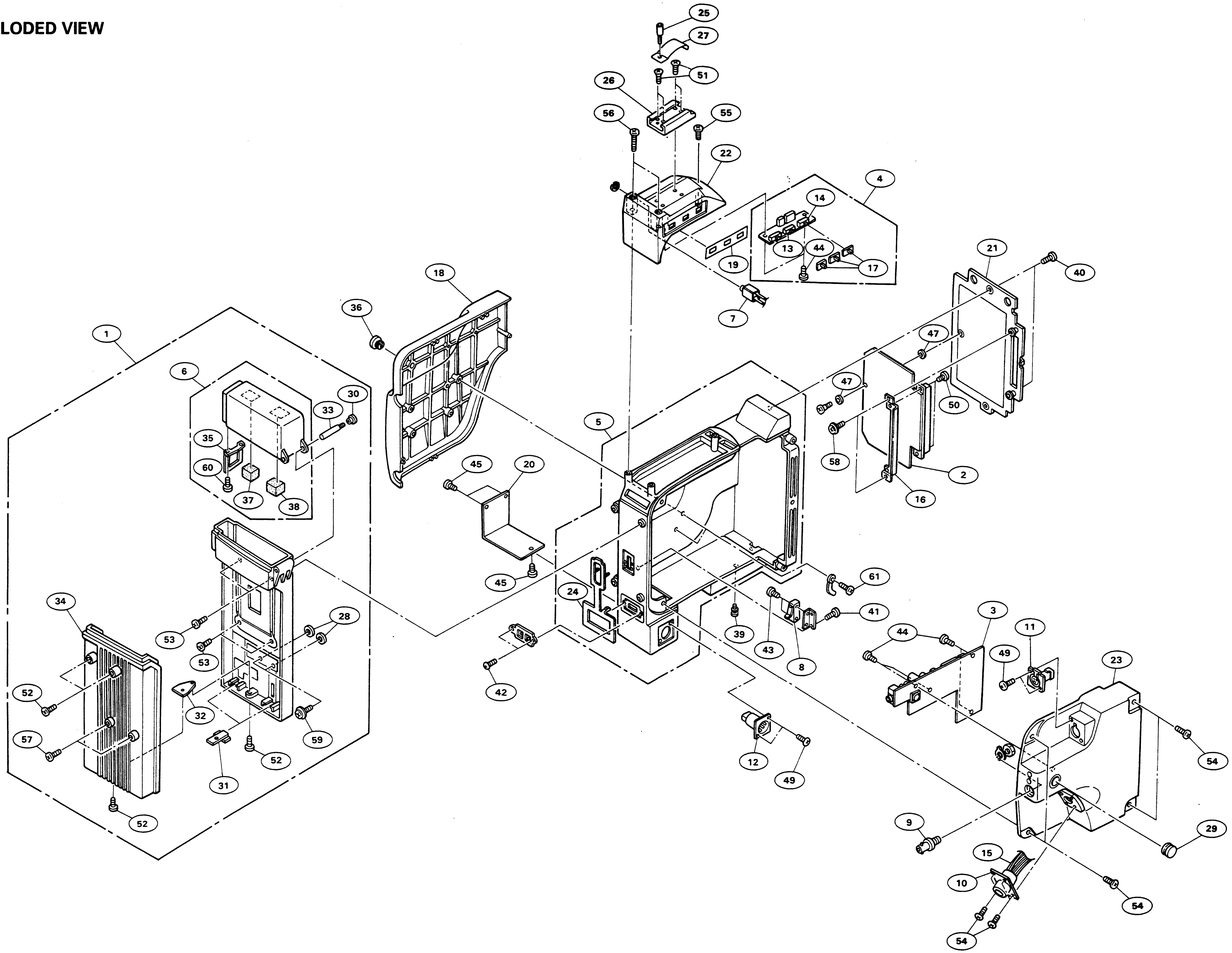
2. Replacement Parts supplied from Sony Parts Center will sometimes have different shape and outside view from the parts which actually in use. This is due to **"accommodating the improved parts and/or engineering changes"** or **"standardization of genuine parts."** This manual 's exploded view and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present." Regarding engineering parts and diagrams changes in our engineering department, refer to SONY service bulletins and service manual supplements.

3. The parts marked with "S" in the SP column of the exploded views and electrical spare parts list are normally required for routine service work. Orders for parts marked with "O" will be processed, but allow for additional delivery time.

4. Item with no parts number and/or no description are not stocked because they are seldom required for routine service.

5. All capacitors are in micro farads unless otherwise specified.
   All inductors are in micro henries unless otherwise specified.
   All resistors are in ohms.

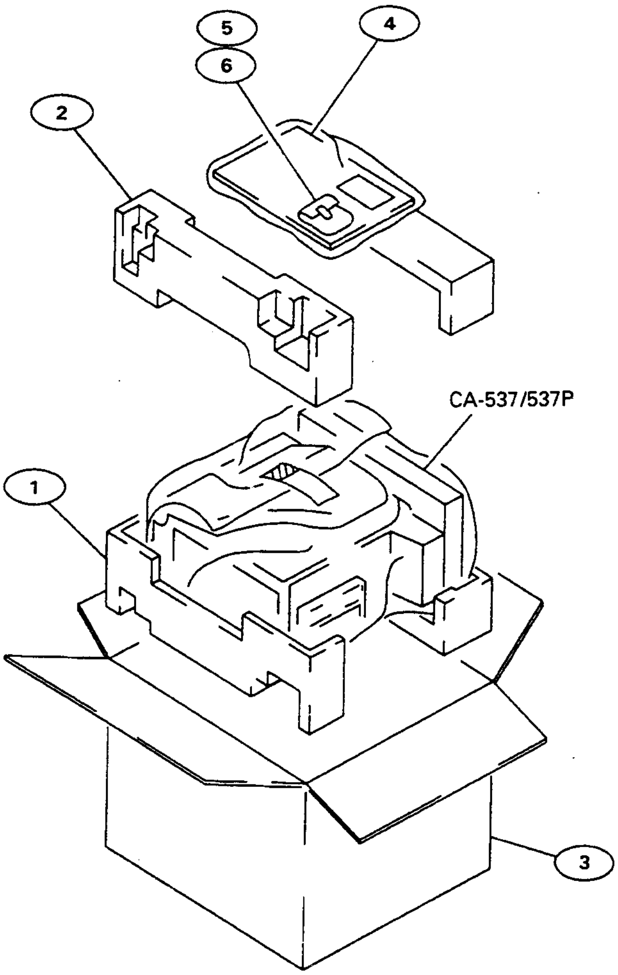
EXPLODED VIEW


25
27
51
26
56
55
22
4
14
13
44
17
19
7
21
40
18
36
1
6
30
33
35
60
37
38
47
47
50
58
2
16
5
45
20
45
61
41
24
39
43
8
34
28
53
53
52
32
57
59
52
31
52
42
3
44
11
49
23
12
49
54
9
29
15
10
54
54

No.	Part No.	SP	Description
1	A-6703-651-C	s	CASE ASSY, BATTERY
2	A-7515-272-A	o	MOUNTED CIRCUIT BOARD, IF-313
3	A-7515-273-A	o	MOUNTED CIRCUIT BOARD, AU-141
4	A-7520-537-A	o	MOUNTED CIRCUIT BOARD, SW-416
5	X-3165-587-1	o	CHASSIS ASSY, CA
6	X-3717-701-3	o	COVER ASSY, TOP, BATTERY
7	1-507-756-00	s	JACK "EAR"
8	1-552-665-00	s	SWITCH, MICRO
9	1-561-781-11	s	CONNECTOR, BNC "GENLOCK IN"
10	1-562-244-00	o	CONNECTOR, 26P "VTR/CCU/CMA"
11	1-563-096-11	s	CONNECTOR, 3P (WITH SW) "MIC IN"
12	1-564-603-11	s	CONNECTOR, 4P (WITH DC SW) "DC IN"
13	1-571-259-11	s	SWITCH, SLIDE "MIC LEVEL"
14	1-571-798-11	s	SWITCH, SLIDE "VTR SELECT"
15	1-948-158-11	o	HARNESS (CCZ)
16	3-166-318-01	o	BRACKET, CONNECTOR
17	3-167-445-02	s	KNOB, SWITCH
18	3-167-450-01	o	PAD, SIDE
19	3-168-313-01	o	PANEL, SWITCH
20	3-168-317-01	o	PLATE (B), BOTTOM
21	3-168-318-01	o	PANEL (2), CONNECTOR
22	3-168-319-02	o	CHASSIS, TOP
23	3-168-320-02	o	COVER (2), SIDE
24	3-168-435-01	o	PACKING, DROP PROTECTION
25	3-664-213-00	o	SCREW, STOPPER
26	3-664-218-00	o	SHUE
27	3-664-228-00	o	PLATE, SPRING
28	3-669-596-00	s	WASHER (2.3), STOPPER
29	3-672-221-02	s	PACKING, CONTROL
30	3-703-075-00	s	CAP 2, SHAFT
31	3-717-707-02	o	CUSHION (2)
32	3-717-708-01	o	RETAINER, CASE
33	3-717-709-01	o	SHAFT, LID
34	3-718-040-01	o	COVER (1), BATTERY CASE
35	3-718-172-01	o	RETAINER, HOOK
36	3-725-907-01	s	BUSHING, BLIND
37	3-729-720-01	o	CUSHION (LEFT)
38	3-729-721-01	o	CUSHION (RIGHT)
39	3-744-355-01	o	SHAFT, GUIDE
40	7-621-770-67	s	SCREW +B 2.6X6
41	7-621-772-18	s	SCREW +B 2X4
42	7-621-772-30	s	SCREW +B 2X6
43	7-621-772-48	s	SCREW +B 2X8
44	7-621-773-86	s	SCREW +B 2.6X4
45	7-621-775-10	s	SCREW +B 2.6X4
46	7-623-508-01	s	LUG, 3
47	7-623-925-11	s	WASHER 4.0, NYLONE
48	7-624-200-01	s	NUT, PUSH 1.5
49	7-627-556-77	s	SCREW, PRECISION +P2.6X6 TYPE 1
50	7-628-254-20	s	SCREW +PS 2.6X8
51	7-682-247-04	s	SCREW +K 3X6
52	7-682-546-09	s	SCREW +B 3X5
53	7-682-547-09	s	SCREW +B 3X6
54	7-682-548-04	s	SCREW +B 3X8
55	7-682-548-09	s	SCREW +B 3X8
56	7-682-553-09	s	SCREW +B 3X20
57	7-682-559-09	s	SCREW +B 4X5
58	7-682-947-01	s	SCREW +PSW 3X6
59	7-682-948-01	s	SCREW +PSW 3X8
60	7-685-133-19	s	SCREW +P 2.6X6 TYPE2
61	7-685-649-79	s	SCREW +BTP 3X14 TYPE2 N-S

PACKING MATERIAL AND ACCESSORIES

No.	Part No.	SP	Description
1	3-167-622-01	o	CUSHION (LOWER)
2	3-167-623-01	o	CUSHION (UPPER)
3	3-168-980-01	o	INDIVIDUAL CARTON
4	3-752-842-12	s	MANUAL, INSTRUCTION
5	7-682-560-09	s	SCREW +B 4X6
6	7-682-563-09	s	SCREW +B 4X12



ELECTRICAL PARTS

RESISTOR, CHIP

Part No.	SP	Description
1-216-295-00	s	RES, CHIP 0 5% 1/10W
1-216-298-00	s	RES, CHIP 2.2 5% 1/10W
1-216-302-00	s	RES, CHIP 2.7 5% 1/10W
1-216-304-11	s	RES, CHIP 3.3 5% 1/10W
1-216-306-11	s	RES, CHIP 3.9 5% 1/10W
1-216-308-00	s	RES, CHIP 4.7 5% 1/10W
1-216-309-00	s	RES, CHIP 5.6 5% 1/10W
1-216-311-00	s	RES, CHIP 6.8 5% 1/10W
1-216-313-00	s	RES, CHIP 8.2 5% 1/10W
1-216-001-00	s	RES, CHIP 10 5% 1/10W
1-216-003-11	s	RES, CHIP 12 5% 1/10W
1-216-005-00	s	RES, CHIP 15 5% 1/10W
1-216-007-00	s	RES, CHIP 18 5% 1/10W
1-216-009-00	s	RES, CHIP 22 5% 1/10W
1-216-011-00	s	RES, CHIP 27 5% 1/10W
1-216-013-00	s	RES, CHIP 33 5% 1/10W
1-216-015-00	s	RES, CHIP 39 5% 1/10W
1-216-017-00	s	RES, CHIP 47 5% 1/10W
1-216-019-00	s	RES, CHIP 56 5% 1/10W
1-216-021-00	s	RES, CHIP 68 5% 1/10W
1-216-023-00	s	RES, CHIP 82 5% 1/10W
1-216-025-00	s	RES, CHIP 100 5% 1/10W
1-216-027-00	s	RES, CHIP 120 5% 1/10W
1-216-029-00	s	RES, CHIP 150 5% 1/10W
1-216-031-00	s	RES, CHIP 180 5% 1/10W
1-216-033-00	s	RES, CHIP 220 5% 1/10W
1-216-035-00	s	RES, CHIP 270 5% 1/10W
1-216-037-00	s	RES, CHIP 330 5% 1/10W
1-216-039-00	s	RES, CHIP 390 5% 1/10W
1-216-041-00	s	RES, CHIP 470 5% 1/10W
1-216-043-00	s	RES, CHIP 560 5% 1/10W
1-216-045-00	s	RES, CHIP 680 5% 1/10W
1-216-047-00	s	RES, CHIP 820 5% 1/10W
1-216-049-00	s	RES, CHIP 1k 5% 1/10W
1-216-051-00	s	RES, CHIP 1.2k 5% 1/10W
1-216-053-00	s	RES, CHIP 1.5k 5% 1/10W
1-216-055-00	s	RES, CHIP 1.8k 5% 1/10W
1-216-057-00	s	RES, CHIP 2.2k 5% 1/10W
1-216-059-00	s	RES, CHIP 2.7k 5% 1/10W
1-216-061-00	s	RES, CHIP 3.3k 5% 1/10W
1-216-063-00	s	RES, CHIP 3.9k 5% 1/10W
1-216-065-00	s	RES, CHIP 4.7k 5% 1/10W
1-216-067-00	s	RES, CHIP 5.6k 5% 1/10W
1-216-069-00	s	RES, CHIP 6.8k 5% 1/10W
1-216-071-00	s	RES, CHIP 8.2k 5% 1/10W
1-216-073-00	s	RES, CHIP 10k 5% 1/10W
1-216-075-00	s	RES, CHIP 12k 5% 1/10W
1-216-077-00	s	RES, CHIP 15k 5% 1/10W
1-216-079-00	s	RES, CHIP 18k 5% 1/10W
1-216-081-00	s	RES, CHIP 22k 5% 1/10W
1-216-083-00	s	RES, CHIP 27k 5% 1/10W
1-216-085-00	s	RES, CHIP 33k 5% 1/10W
1-216-748-11	s	RES, CHIP 39k 5% 1/10W
1-216-089-00	s	RES, CHIP 47k 5% 1/10W
1-216-091-00	s	RES, CHIP 56k 5% 1/10W

RESISTOR, CHIP

Part No.	SP	Description
1-216-093-00	s	RES, CHIP 68k 5% 1/10W
1-216-095-00	s	RES, CHIP 82k 5% 1/10W
1-216-097-00	s	RES, CHIP 100k 5% 1/10W
1-216-099-00	s	RES, CHIP 120k 5% 1/10W
1-216-101-00	s	RES, CHIP 150k 5% 1/10W
1-216-103-00	s	RES, CHIP 180k 5% 1/10W
1-216-105-00	s	RES, CHIP 220k 5% 1/10W
1-216-107-00	s	RES, CHIP 270k 5% 1/10W
1-216-109-00	s	RES, CHIP 330k 5% 1/10W
1-216-111-00	s	RES, CHIP 390k 5% 1/10W
1-216-113-00	s	RES, CHIP 470k 5% 1/10W
1-216-115-00	s	RES, CHIP 560k 5% 1/10W
1-216-117-00	s	RES, CHIP 680k 5% 1/10W
1-216-119-00	s	RES, CHIP 820k 5% 1/10W
1-216-121-00	s	RES, CHIP 1.0M 5% 1/10W
1-216-123-11	s	RES, CHIP 1.2M 5% 1/10W
1-216-125-00	s	RES, CHIP 1.5M 5% 1/10W
1-216-127-11	s	RES, CHIP 1.8M 5% 1/10W
1-216-129-00	s	RES, CHIP 2.2M 5% 1/10W
1-216-131-11	s	RES, CHIP 2.7M 5% 1/10W
1-216-133-00	s	RES, CHIP 3.3M 5% 1/10W

AU-141 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-273-A	o	MOUNTED CIRCUIT BOARD, AU-141
C1	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C2	1-124-119-00	s	ELECT 330uF 20% 16V
C3	1-124-472-11	s	ELECT 470uF 20% 10V
C4	1-126-160-11	s	ELECT 1uF 20% 50V
C5	1-126-154-11	s	ELECT 47uF 20% 6.3V
C6	1-163-243-11	s	CERAMIC 47PF 5% 50V
C7	1-126-320-11	s	ELECT, NONPOLAR 10uF 20% 16V
C8	1-163-251-11	s	CERAMIC 100PF 5% 50V
C9	1-124-584-00	s	ELECT 100uF 20% 10V
C10	1-124-584-00	s	ELECT 100uF 20% 10V
C11	1-124-584-00	s	ELECT 100uF 20% 10V
C12	1-126-157-11	s	ELECT 10uF 20% 16V
C13	1-124-930-11	s	ELECT 33uF 20% 100V
C14	1-124-257-00	s	ELECT 2.2uF 20% 50V
C16	1-130-499-00	s	MYLAR 0.22uF 5% 50V
C17	1-130-499-00	s	MYLAR 0.22uF 5% 50V
C18	1-163-243-11	s	CERAMIC 47PF 5% 50V
C19	1-163-243-11	s	CERAMIC 47PF 5% 50V
C20	1-124-120-11	s	ELECT 220uF 20% 25V
C21	1-126-101-11	s	ELECT 100uF 20% 16V
C22	1-124-584-00	s	ELECT 100uF 20% 10V
C23	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C24	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C25	1-124-257-00	s	ELECT 2.2uF 20% 50V
CN1	1-506-468-11	o	CONNECTOR, 3P, MALE
CN2	1-506-475-11	o	CONNECTOR, 10P, MALE
CN3	1-506-469-11	o	CONNECTOR, 4P, MALE
CN4	1-506-472-11	o	CONNECTOR, 7P, MALE
CN5	1-506-467-11	o	CONNECTOR, 2P, MALE
CP1	1-464-758-11	s	CONVERTER, DC-DC (CD-54)
D1	8-719-105-64	s	DIODE RD4.3M-B2
D2	8-719-800-76	s	DIODE 1SS226
D3	8-719-800-76	s	DIODE 1SS226
D4	8-719-800-76	s	DIODE 1SS226
IC1	8-759-981-58	s	IC RC2043MD
IC2	8-759-981-58	s	IC RC2043MD
IC3	8-759-300-71	s	IC MC14053BF
IC4	8-759-300-71	s	IC MC14053BF
JK1	1-507-883-00	s	JACK, SMALL TYPE 4P
L1	1-408-425-00	s	INDUCTOR 220uH
Q1	8-729-100-66	s	TRANSISTOR 2SC1623
Q2	8-729-216-22	s	TRANSISTOR 2SA1162
Q9	8-729-216-22	s	TRANSISTOR 2SA1162
Q10	8-729-100-66	s	TRANSISTOR 2SC1623
Q11	8-729-100-66	s	TRANSISTOR 2SC1623
R24	1-216-671-11	s	METAL, CHIP 6.8K 0.5% 1/10W
R25	1-216-671-11	s	METAL, CHIP 6.8K 0.5% 1/10W
RV1	1-230-523-11	s	RES, ADJ, METAL 10K
RV2	1-237-506-21	s	RES, ADJ, METAL 100K
S1	1-553-739-21	s	SWITCH, TACTILE
T1	1-427-487-00	s	TRANSFORMER, OUTPUT
T2	1-427-270-XX	s	TRANSFORMER, OUTPUT
T3	1-427-487-00	s	TRANSFORMER, OUTPUT

Please see pages D-7 for the part numbers of capacitors and resistors that are not listed in the parts list.

IF-313 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-272-A	o	MOUNTED CIRCUIT BOARD, IF-313
C1	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C2	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C3	1-163-243-11	s	CERAMIC 47PF 5% 50V
C4	1-163-239-11	s	CERAMIC 33PF 5% 50V
C5	1-163-097-00	s	CERAMIC, CHIP 15PF 5% 50V
C6	1-163-217-11	s	CERAMIC 1PF 0.25PF 50V
C7	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C8	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C9	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C10	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C11	1-163-243-11	s	CERAMIC 47PF 5% 50V
C12	1-163-239-11	s	CERAMIC 33PF 5% 50V
C13	1-163-097-00	s	CERAMIC, CHIP 15PF 5% 50V
C14	1-163-217-11	s	CERAMIC 1PF 0.25PF 50V
C15	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C16	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C17	1-126-401-11	s	ELECT, CHIP 1uF 20% 50V
C18	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C19	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C20	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C21	1-126-401-11	s	ELECT, CHIP 1uF 20% 50V
C22	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C23	1-126-176-11	s	ELECT 220uF 20% 10V
C25	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C26	1-163-227-11	s	CERAMIC 10PF 5% 50V
C27	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C28	1-126-393-11	s	ELECT 33uF 20% 10V
C29	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C30	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C31	1-163-227-11	s	CERAMIC 10PF 5% 50V
C32	1-163-085-00	s	CERAMIC, CHIP 2PF 50V
C33	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C34	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C35	1-163-227-11	s	CERAMIC 10PF 5% 50V
C36	1-163-085-00	s	CERAMIC, CHIP 2PF 50V
C37	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C38	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C47	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C48	1-163-091-00	s	CERAMIC, CHIP 8PF 50V
C49	1-163-227-11	s	CERAMIC 10PF 5% 50V
C50	1-163-243-11	s	CERAMIC 47PF 5% 50V
C51	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C52	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C53	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C54	1-163-243-11	s	CERAMIC 47PF 5% 50V
C55	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C56	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C57	1-163-243-11	s	CERAMIC 47PF 5% 50V
C58	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C59	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C60	1-163-227-11	s	CERAMIC 10PF 5% 50V
C61	1-163-085-00	s	CERAMIC, CHIP 2PF 50V
C62	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C63	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C67	1-163-239-11	s	CERAMIC 33PF 5% 50V
C68	1-163-239-11	s	CERAMIC 33PF 5% 50V
C69	1-126-402-11	s	ELECT, CHIP 2.2uF 20% 50V

(IF-313 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C70	1-163-275-11	s	CERAMIC 0.001uF 5% 50V
C71	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C72	1-126-390-11	s	ELECT, CHIP 22uF 20% 6.3V
C73	1-126-401-11	s	ELECT, CHIP 1uF 20% 50V
C75	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
CN1	1-566-581-11	o	CONNECTOR, MULTI 50P
CN2	1-506-702-11	o	CONNECTOR, ILG 3P,
CN3	1-506-702-11	o	CONNECTOR, ILG 3P,
CN4	1-506-474-11	o	CONNECTOR, 9P, MALE
CN5	1-506-467-11	o	CONNECTOR, 2P, MALE
CN6	1-506-471-11	o	CONNECTOR, 6P, MALE
CN7	1-506-470-11	o	CONNECTOR, 5P, MALE
CN8	1-506-469-11	o	CONNECTOR, 4P, MALE
CN9	1-506-472-11	o	CONNECTOR, 7P, MALE
D1	8-719-800-76	s	DIODE 1SS226
D2	8-719-800-76	s	DIODE 1SS226
D3	8-719-104-34	s	DIODE 1S2836
D4	8-719-104-34	s	DIODE 1S2836
D5	8-719-106-08	s	DIODE RD6.2M-B2
D6	8-719-104-34	s	DIODE 1S2836
D7	8-719-105-91	s	DIODE RD5.6M-B2
D8	8-719-106-44	s	DIODE RD9.1M-B2
IC1	8-759-100-96	s	IC UPC4558G2
IC2	8-759-300-71	s	IC MC14053BF
IC3	8-759-100-96	s	IC UPC4558G2
IC4	8-759-009-06	s	IC MC14052BF
IC5	8-759-300-71	s	IC MC14053BF
IC6	8-759-300-71	s	IC MC14053BF
IC7	8-759-323-63	s	IC HD6305Y0E26F
IC8	8-759-209-97	s	IC TC4S81F
IC9	8-759-981-65	s	IC LM2903M
IC13	8-759-981-65	s	IC LM2903M
L2	1-408-783-00	s	CHIP 33uH
Q1	8-729-403-32	s	TRANSISTOR XN6534
Q2	8-729-403-32	s	TRANSISTOR XN6534
Q3	8-729-109-44	s	TRANSISTOR 2SK94
Q4	8-729-402-19	s	TRANSISTOR XN6501
Q5	8-729-403-32	s	TRANSISTOR XN6534
Q6	8-729-403-32	s	TRANSISTOR XN6534
Q7	8-729-109-44	s	TRANSISTOR 2SK94
Q8	8-729-402-19	s	TRANSISTOR XN6501
Q9	8-729-402-84	s	TRANSISTOR XN4601
Q11	8-729-403-32	s	TRANSISTOR XN6534
Q12	8-729-403-32	s	TRANSISTOR XN6534
Q13	8-729-402-78	s	TRANSISTOR XN6401
Q14	8-729-100-66	s	TRANSISTOR 2SC1623
Q15	8-729-402-78	s	TRANSISTOR XN6401
Q16	8-729-175-72	s	TRANSISTOR 2SC2757-T33
Q17	8-729-402-19	s	TRANSISTOR XN6501
Q18	8-729-402-84	s	TRANSISTOR XN4601
Q19	8-729-402-78	s	TRANSISTOR XN6401
Q20	8-729-402-78	s	TRANSISTOR XN6401
Q21	8-729-402-78	s	TRANSISTOR XN6401
Q22	8-729-402-84	s	TRANSISTOR XN4601
Q23	8-729-403-32	s	TRANSISTOR XN6534
Q24	8-729-402-19	s	TRANSISTOR XN6501
Q25	8-729-402-78	s	TRANSISTOR XN6401
Q26	8-729-402-84	s	TRANSISTOR XN4601

(IF-313 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q27	8-729-403-32	s	TRANSISTOR XN6534
Q28	8-729-402-19	s	TRANSISTOR XN6501
Q29	8-729-402-78	s	TRANSISTOR XN6401
Q30	8-729-402-84	s	TRANSISTOR XN4601
Q31	8-729-403-32	s	TRANSISTOR XN6534
Q32	8-729-402-19	s	TRANSISTOR XN6501
Q33	8-729-402-78	s	TRANSISTOR XN6401
Q35	8-729-402-78	s	TRANSISTOR XN6401
Q36	8-729-402-19	s	TRANSISTOR XN6501
Q37	8-729-122-63	s	TRANSISTOR 2SA1226
Q38	8-729-402-19	s	TRANSISTOR XN6501
Q39	8-729-402-78	s	TRANSISTOR XN6401
Q58	8-729-402-84	s	TRANSISTOR XN4601
Q59	8-729-100-66	s	TRANSISTOR 2SC1623
Q60	8-729-402-84	s	TRANSISTOR XN4601
Q61	8-729-201-05	s	TRANSISTOR 2SC2878-B
Q62	8-729-402-78	s	TRANSISTOR XN6401
Q63	8-729-109-44	s	TRANSISTOR 2SK94
Q64	8-729-109-44	s	TRANSISTOR 2SK94
Q65	8-729-109-44	s	TRANSISTOR 2SK94
Q66	8-729-100-66	s	TRANSISTOR 2SC1623
R1	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R25	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R54	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R61	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R68	1-216-671-11	s	METAL, CHIP 6.8K 0.5% 1/10W
R69	1-216-671-11	s	METAL, CHIP 6.8K 0.5% 1/10W
R81	1-216-623-11	s	METAL, CHIP 68 0.5% 1/10W
R92	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R93	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R97	1-216-661-11	s	METAL, CHIP 2.7K 0.5% 1/10W
R98	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R105	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R107	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R108	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R112	1-216-661-11	s	METAL, CHIP 2.7K 0.5% 1/10W
R113	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R120	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R122	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R123	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R152	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R160	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R161	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R168	1-216-623-11	s	METAL, CHIP 68 0.5% 1/10W
R174	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R199	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R203	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R211	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R213	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R216	1-216-661-11	s	METAL, CHIP 2.7K 0.5% 1/10W
R217	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R224	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R277	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R282	1-216-649-11	s	METAL, CHIP 820 0.5% 1/10W
R285	1-216-649-11	s	METAL, CHIP 820 0.5% 1/10W
R288	1-216-649-11	s	METAL, CHIP 820 0.5% 1/10W
RV1	1-230-520-11	s	RES, ADJ, METAL 1K
RV2	1-230-520-11	s	RES, ADJ, METAL 1K

Please see pages D-7 for the part numbers of capacitors and resistors that are not listed in the parts list.

(IF-313 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
RV3	1-230-520-11	s	RES, ADJ, METAL 1K
S1	1-570-854-11	s	SWITCH, SLIDE
X1	1-567-192-11	s	RESONATOR, CERAMIC 4.00MHz

SW-416 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7520-537-A	o	MOUNTED CIRCUIT BOARD, SW-416
1pc	1-562-736-11	o	HOUSING, 3P
1pc	1-562-739-11	o	HOUSING, CONNECTOR 6P
1pc	1-564-831-11	o	CONTACT, FEMALE
1pc	1-569-193-11	s	CONTACT
1pc	1-569-196-11	o	HOUSING, 3P
1pc	1-569-200-11	o	HOUSING, CONNECTOR 7P
1pc	1-569-202-11	o	HOUSING, CONNECTOR 9P
1pc	1-569-203-31	o	HOUSING, CONNECTOR 10P
3pcs	3-167-445-02	s	KNOB, SWITCH
CN2	1-506-467-11	o	CONNECTOR, 2P, MALE
S1	1-571-259-11	s	SWITCH, SLIDE
S2	1-571-259-11	s	SWITCH, SLIDE
S3	1-571-798-11	s	SWITCH, SLIDE

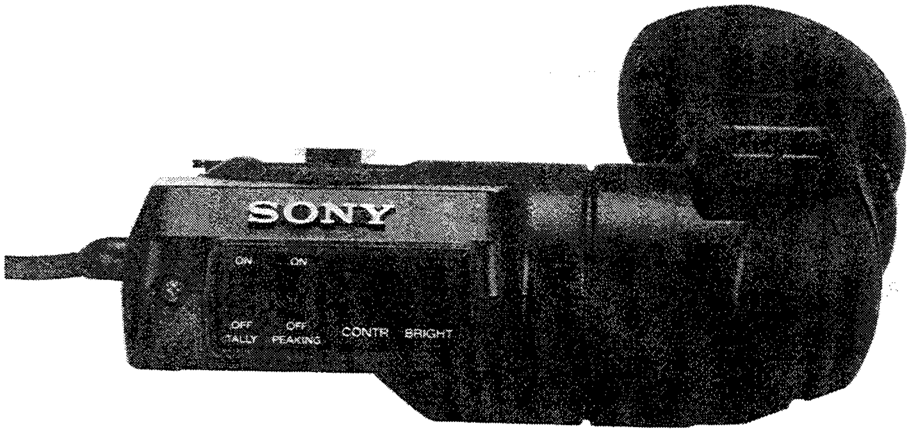
FRAME

Ref. No. or Q'ty	Part No.	SP	Description
C101	1-161-051-00	s	CERAMIC 0.01uF 10% 50V
C102	1-161-051-00	s	CERAMIC 0.01uF 10% 50V
C103	1-161-051-00	s	CERAMIC 0.01uF 10% 50V
C104	1-161-051-00	s	CERAMIC 0.01uF 10% 50V
CN101	1-563-096-11	s	CONNECTOR, 3P FEMAIL (WITH SW) "MIC
	1-569-193-11	s	CONTACT
	1-569-197-11	o	PLUG HOUSING, 4P
CN102	1-948-158-11	o	HARNESS (CCZ) "VTR/CCU/CMA"
	1-560-372-00	o	CONTACT, AWG22-28
	1-561-515-00	o	HOUSING, ILG 3P FEMALE
	1-562-244-00	o	CONNECTOR, 26P MALE
	1-569-193-11	s	CONTACT, AWG24-30
	1-569-195-11	o	HOUSING, CONNECTOR 2P
	1-569-197-11	o	PLUG HOUSING, 4P
	1-569-198-11	o	PLUG HOUSING, 5P
	1-569-199-11	o	PLUG HOUSING, 6P
	1-569-200-41	o	HOUSING, CONNECTOR 7P
CN103	1-564-603-11	s	CONNECTOR (WITH DC SW) 4P, MALE
	1-560-372-00	o	CONTACT, AWG22-28
	1-561-515-00	o	HOUSING, ILG 3P FEMALE
CN104	1-561-781-11	s	CONNECTOR, BNC, FEMALE "GEN LOCK"
J101	1-507-756-31	s	JACK "EARPHONE"
	1-569-193-11	s	CONTACT
	1-569-195-11	o	HOUSING, CONNECTOR 2P
S101	1-552-665-00	s	SWITCH, MICRO "BATTERY"

Please see pages D-7 for the part numbers of capacitors
and resistors that are not listed in the parts list.

1.5INCH ELECTRONIC VIEWFINDER

DXF-501



SPECIFICATIONS

Picture tube	1.5-inch monochrome
Indicators	REC/TALLY indicator BATT indicator SHUTTER indicator GAIN UP indicator
Resolution	400 lines
Power requirements	12 V DC
Power consumption	2.3 W
Weight	Approx. 500 g (1 lb 2 oz)
Dimensions	Approx. 182 × 68 × 205 mm (w/h/d)
Supplied accessory	Operating Instructions (1)

Design and specifications are subject to change without notice.

SONY®

SERVICE MANUAL

TABLE OF CONTENTS

A. BLOCK DIAGRAM

Overall A-1

B. SEMICONDUCTOR

Semiconductor B-1

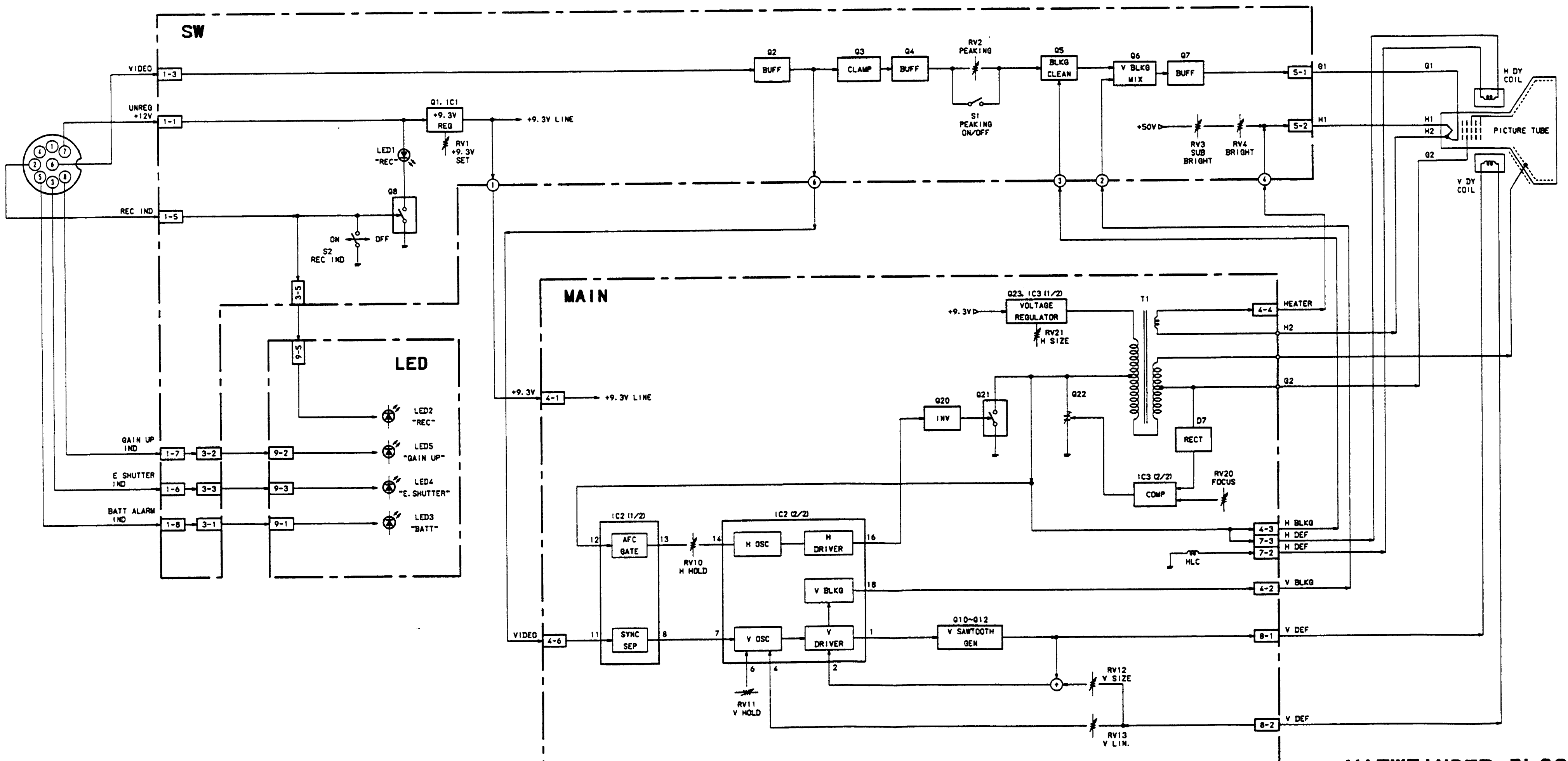
C. SCHEMATIC DIAGRAM AND BOARD ILLUSTRATION

MAIN
SW C-3
LED

D. SPARE PARTS

D-1. Parts Information D-1
D-2. Exploded View..D-3
D-3. Electrical Parts List..D-5

SECTION A
BLOCK DIAGRAM


SW
VIDEO
1-3
UNREG
+12V
1-1
REC IND
1-5
Q1, IC1
+9.3V REG
RV1 +9.3V SET
+9.3V LINE
LED1 "REC"
Q8
ON OFF
S2 REC IND
3-5
9-5
LED
LED2 "REC"
GAIN UP IND
1-7
3-2
9-2
LED5 "GAIN UP"
E SHUTTER IND
1-6
3-3
9-3
LED4 "E. SHUTTER"
BATT ALARM IND
1-8
3-1
9-1
LED3 "BATT"
Q2 BUFF
Q3 CLAMP
Q4 BUFF
RV2 PEAKING
S1 PEAKING ON/OFF
Q5 BLKG CLEAN
Q6 V BLKG MIX
Q7 BUFF
S-1
G1
S-2
H1
+50V
RV3 SUB BRIGHT
RV4 BRIGHT
H DY COIL
H1
H2
PICTURE TUBE
G2
V DY COIL
1
6
3
2
4
MAIN
+9.3V
4-1
+9.3V LINE
Q23, IC3 (1/2)
+9.3V
VOLTAGE REGULATOR
RV21 H SIZE
T1
4-4
HEATER
H2
G2
Q20 INV
Q21
Q22
D7
RECT
IC3 (2/2)
COMP
RV20 FOCUS
IC2 (1/2)
12
AFC GATE
13
RV10 H HOLD
14
IC2 (2/2)
H OSC
H DRIVER
16
V BLKG
18
VIDEO
4-6
11
SYNC SEP
8
7
V OSC
V DRIVER
1
6
4
2
RV11 V HOLD
Q10~Q12
V SAWTOOTH GEN
RV12 V SIZE
RV13 V LIN.
4-3
H BLKG
7-3
H DEF
7-2
H DEF
HLC
4-2
V BLKG
8-1
V DEF
8-2
V DEF

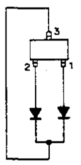
VIEWFINDER BLOCK

SECTION B
SEMICONDUCTOR PIN ASSIGNMENTS

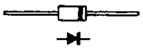
The circuit diagram of IC is obtained from the IC data book published by the manufacturer.

< DIODE >

TOP VIEW (SCALE 4/1)

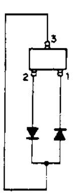


1S2837
DAN202K

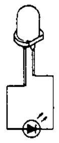


1SS133
1SS136
ERA15-06
ERA22-08

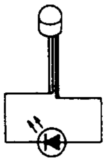
TOP VIEW (SCALE 4/1)



DA204K



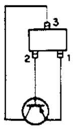
SLH-56VT



TLO102A
TLR109A

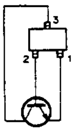
<TRANSISTOR >

TOP VIEW (SCALE 4/1)

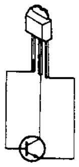


2SA812
2SB624

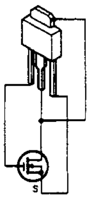
TOP VIEW (SCALE 4/1)



2SC2812
2SC2814
2SC3722K



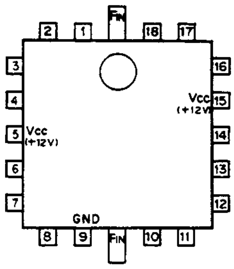
2SD1220

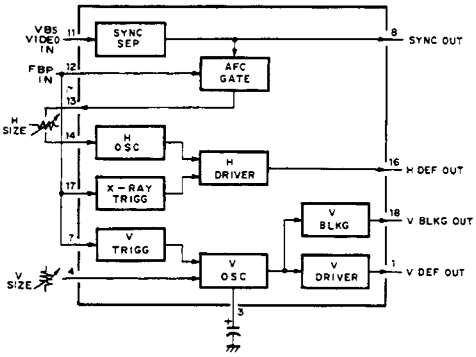


2SK612

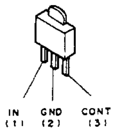
< IC >

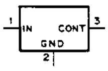
HA11423MP (HITACHI) FLAT PACKAGE
TV H/V SYNC SIGNAL PROCESSOR
– TOP VIEW –


2
1
FIN
18
17
3
4
5
6
7
16
15
14
13
12
Vcc (+12V)
Vcc (+12V)
GND
8
9
FIN
10
11

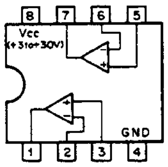

VBS VIDEO IN
11
SYNC SEP
8
SYNC OUT
FBP IN
12
AFC GATE
13
H SIZE
14
H OSC
H DRIVER
16
H DEF OUT
17
X-RAY TRIGG
V BLKG
18
V BLKG OUT
7
V TRIGG
V SIZE
4
V OSC
V DRIVER
1
V DEF OUT
3

M5236ML (MITSUBISI)
ADJUSTABLE VOLTAGE REGULATOR


IN (1)
GND (2)
CONT (3)

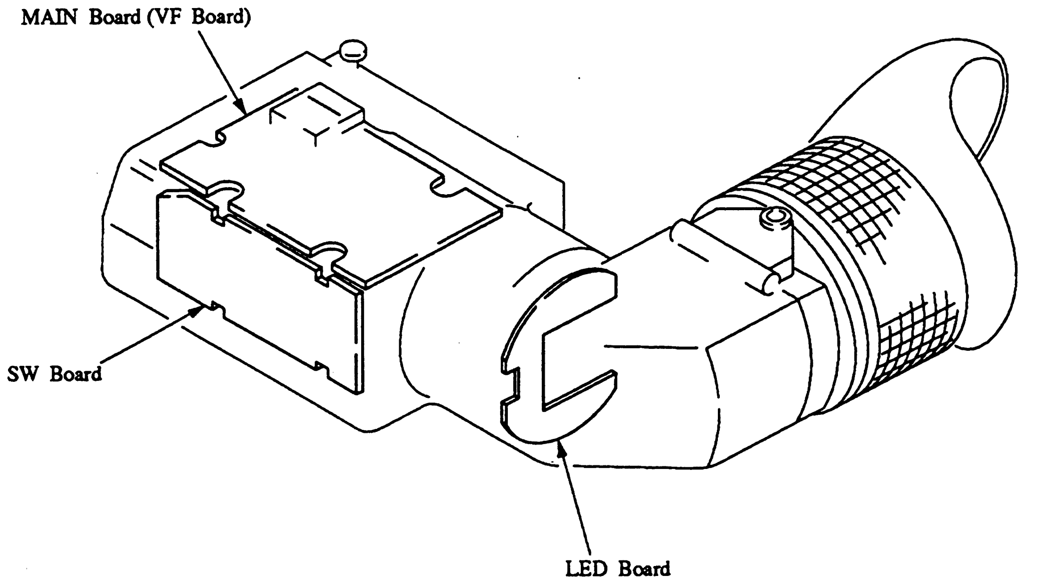

1
IN
CONT
3
GND
2

uPC358G2 (NEC) FLAT PACKAGE
DUAL OPERATIONAL AMPLIFIERS
– TOP VIEW –

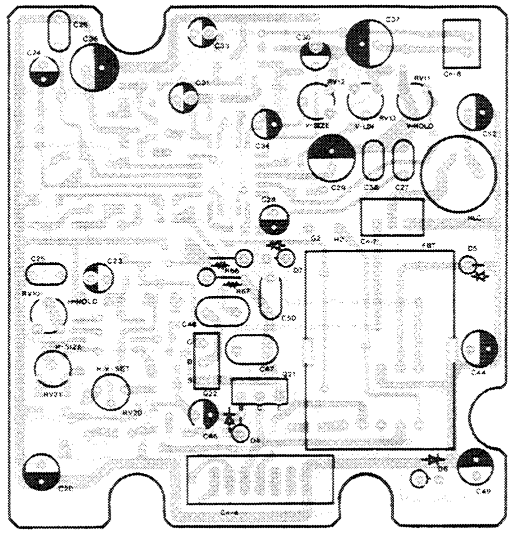

8
7
6
5
Vcc (+3to+30V)
GND
1
2
3
4

SECTION C

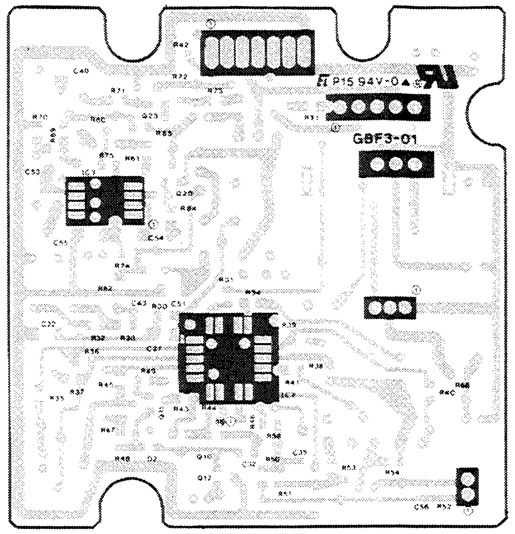
SCHEMATIC DIAGRAMS AND BOARD ILLUSTRATIONS


MAIN Board (VF Board)
SW Board
LED Board

MAIN BOARD

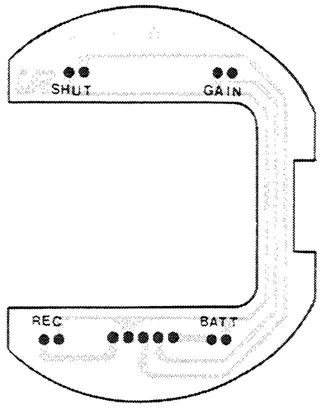

C36
C37
C29
C28
C44
C49
D5
D6
IC1

COMPONENT SIDE


P15 94V-0
GBF3-01
IC2

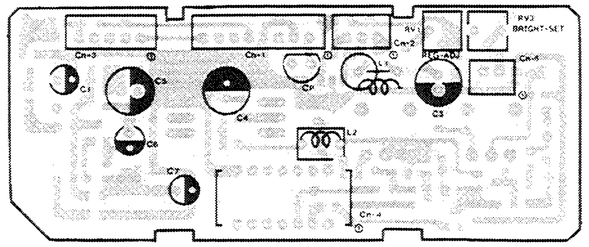
SOLDERING SIDE

LED BOARD

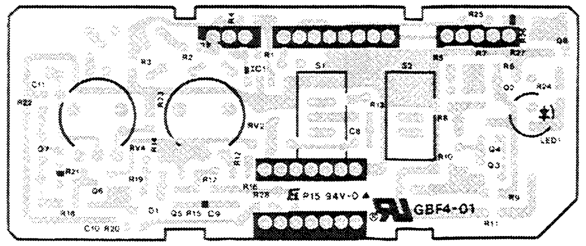

SHUT
GAIN
REC
BATT

COMPONENT SIDE

SW BOARD

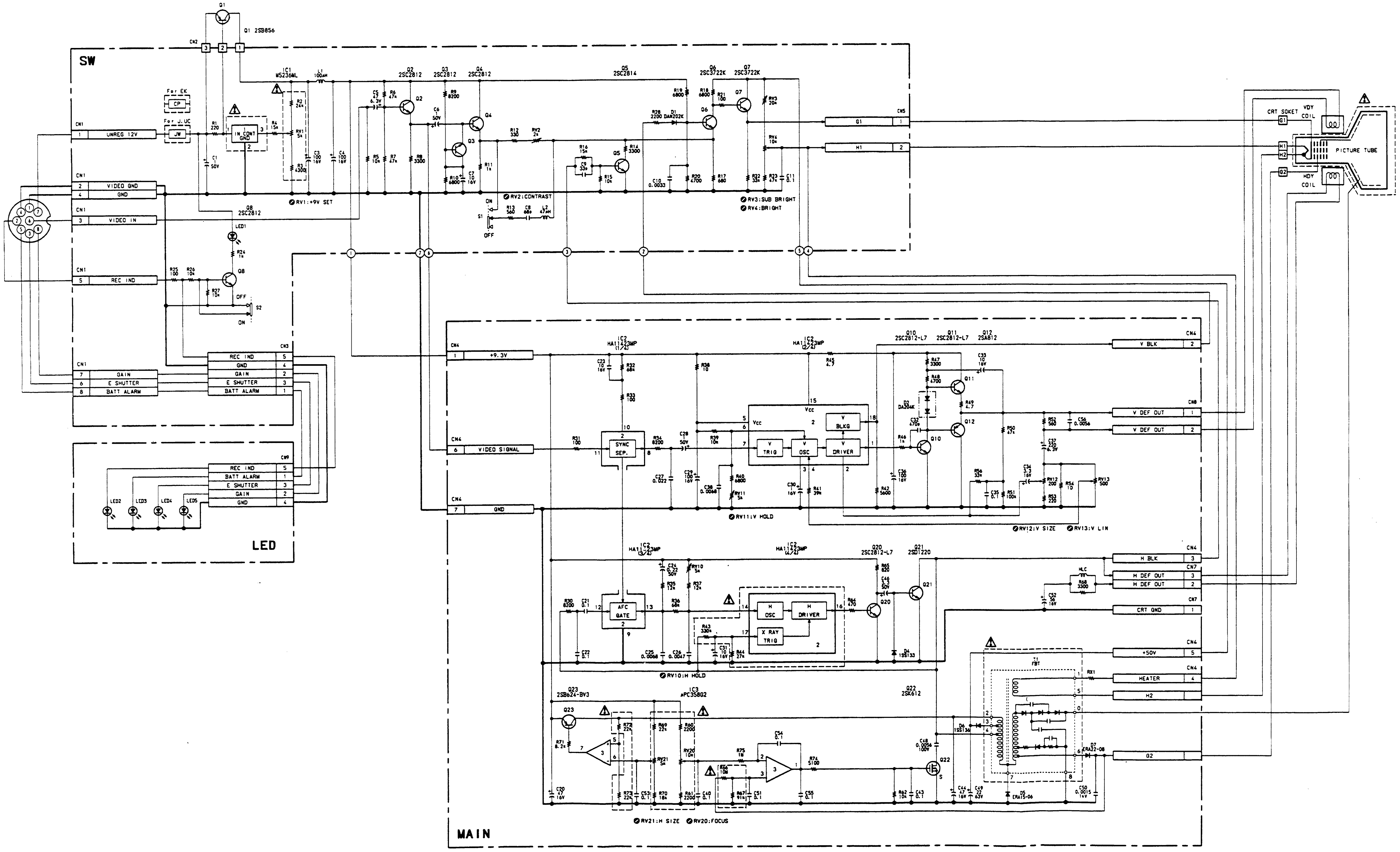

RV3
BRIGHT-SET
C3
C4
C5
C6
C7
L2

COMPONENT SIDE


S1
S2
IC1
P15 94V-0
GBF4-01
LED1

SOLDERING SIDE

FRAME


SW
MAIN
LED
Q1 2SB856
CN2
IC1 M5236ML
Q2 2SC2812
Q3 2SC2812
Q4 2SC2812
Q5 2SC2814
Q6 2SC3722K
Q7 2SC3722K
Q8 2SC2812
For EK
CP
For J, UC
JW
IN CONT GND
UNREG 12V
VIDEO GND
GND
VIDEO IN
REC IND
GAIN
E SHUTTER
BATT ALARM
RV1:+9V SET
RV2:CONTRAST
RV3:SUB BRIGHT
RV4:BRIGHT
S1
ON
OFF
S2
LED1
LED2
LED3
LED4
LED5
CN1
CN3
CN5
CN9
G1
H1
H2
G2
CRT SOKET
VDY COIL
HDY COIL
PICTURE TUBE
CN4
+9.3V
VIDEO SIGNAL
IC2 HA11423MP
Q10 2SC2812-L7
Q11 2SC2812-L7
Q12 2SA812
SYNC SEP.
V TRIG
OSC
V DRIVER
V BLKG
Vcc
V BLK
CN8
V DEF OUT
RV11:V HOLD
RV12:V SIZE
RV13:V LIN
AFC GATE
H OSC
H DRIVER
X RAY TRIG
Q20 2SC2812-L7
Q21 2SD1220
H BLK
CN7
H DEF OUT
HLC
CRT GND
RV10:H HOLD
+50V
HEATER
T1 FBT
Q22 2SK612
Q23 2SB624-BV3
IC3 APC3580Z
RV21:H SIZE
RV20:FOCUS

1
–
2
–
3
–
4
–
5
–
6

DXF-501 (J, UC)
DXF-501CE (EK)

C-5

C-6

B-DXF501-FRAME/M

A | B | C | D | E | F

SECTION D
SPARE PARTS

PARTS INFORMATION

1. **Safety Related Component Warning**

   Components indentified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service manual supplements published by Sony.

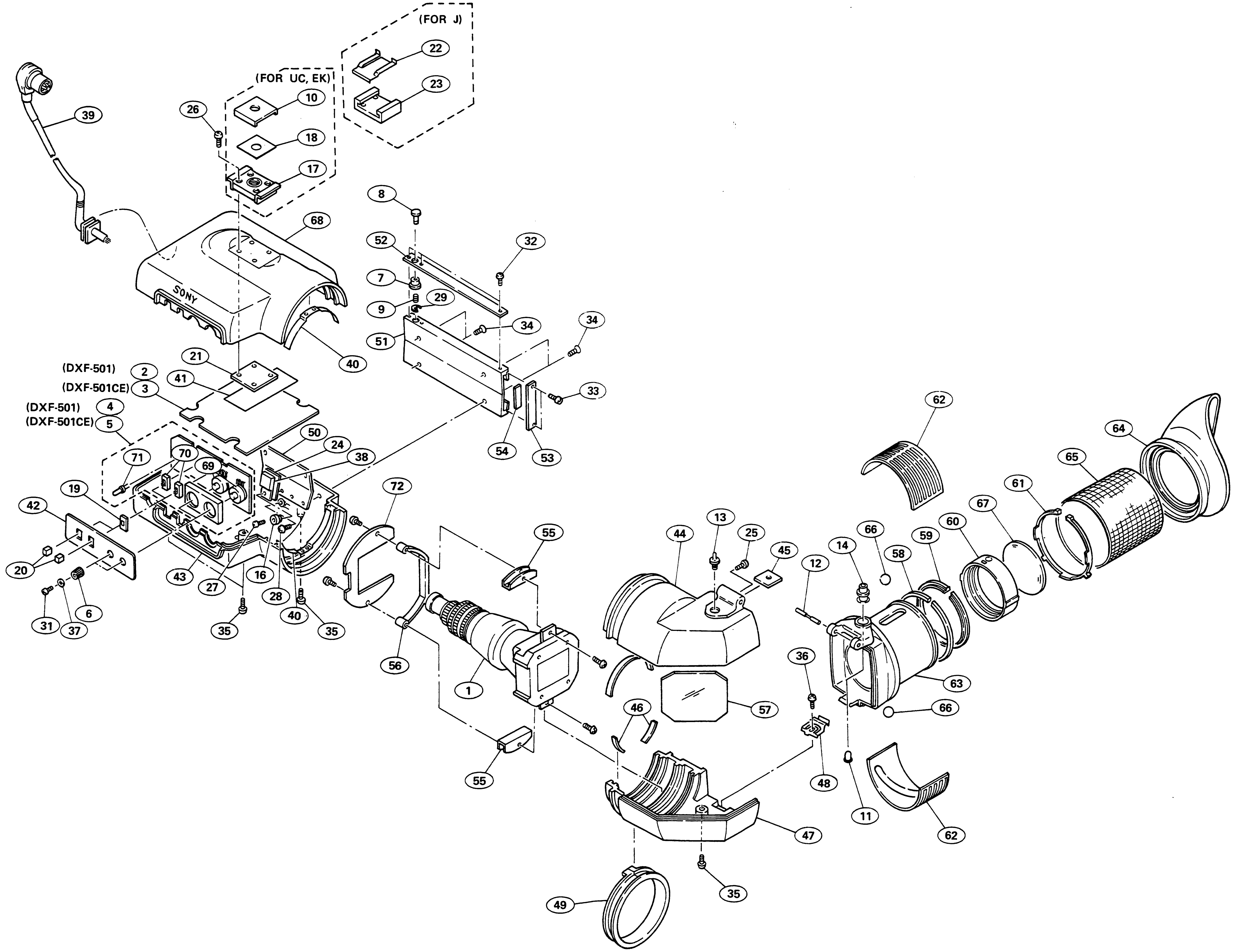
2. Replacement Parts supplied from Sony Parts Center will sometimes have different shape and outside view from the parts which actually in use. This is due to **"accommodating the improved parts and/or engineering changes" or "standardization of genuine parts."** This manual 's exploded view and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present." Regarding engineering parts and diagrams changes in our engineering department, refer to SONY service bulletins and service manual supplements.

3. The parts marked with "S" in the SP column of the exploded views and electrical spare parts list are normally required for routine service work. Orders for parts marked with "O" will be processed, but allow for additional delivery time.

4. Item with no parts number and/or no description are not stocked because they are seldom required for routine service.

5. All capacitors are in micro farads unless otherwise specified.
   All inductors are in micro henries unless otherwise specified.
   All resistors are in ohms.

EXPLODED VIEW


(FOR J)
22
23
(FOR UC, EK)
10
18
17
26
39
68
SONY
8
52
32
7
9
29
34
34
51
33
54
53
40
21
41
(DXF-501) 2
(DXF-501CE) 3
(DXF-501) 4
(DXF-501CE) 5
50
24
38
71
70
69
19
42
20
31
37
6
43
27
16
28
35
40
35
72
56
1
55
55
44
13
25
45
57
46
47
49
35
12
14
66
58
59
60
67
61
65
64
62
63
66
36
48
11
62

No.		Part No.	SP	Description
1	⚠	1-546-078-11	s	CRT/DY ASSY
2		1-589-128-11	o	MAIN BOARD (for DXF-501)
3		1-589-128-21	o	MAIN BOARD (for DXF-501CE)
4		1-589-129-11	o	SW BOARD (for DXF-501)
5		1-589-129-21	o	SW BOARD (for DXF-501CE)
6		2-277-453-00	s	KNOB, CONTROL
7		2-277-456-00	s	COLLER, STOPPER
8		2-277-457-00	s	KNOB, STOPPER
9		2-277-466-01	s	SPRING, COMPRESSION
10		2-277-468-01	o	PLATE, ORNAMENTAL, CAMERA, SHOE
11		2-381-461-02	s	PIN, BLIND
12		2-381-462-01	s	PIN
13		2-381-468-01	s	PIN, STOPPER
14		2-381-472-02	o	STOPPER
16		2-832-007-00	s	BUSHING (K), INSULATING
17		3-657-700-00	s	BRACKET, ACCESSORY
18		3-672-213-01	o	SHEET, ADHESIVE
19		3-680-604-01	o	PLATE, BLIND
20		3-680-605-00	o	CAP, SLIDE
21		3-688-709-01	s	NUT, PLATE, SHOE
24		3-703-037-00	s	INSULATOR, TO-220
25		7-621-255-25	s	SCREW +P2X4
26		7-621-255-52	s	SCREW +P2X8
27		7-621-773-95	s	SCREW +B2.6X6
28		7-621-775-00	s	SCREW +B2.6X3
29		7-624-102-04	s	STOP RING, TYPE E
31		7-627-552-58	s	SCREW, PRECISION +P1.7X5
32		7-627-553-28	s	SCREW, PRECISION +P2X2.5
33		7-627-553-68	s	SCREW, PRECISION +P2X6
34		7-682-248-09	s	SCREW +K3X8
35		7-682-550-09	s	SCREW +B3X12
36		7-685-131-19	s	SCREW +BTP2.6X4
37		7-688-008-04	s	WASHER
38		8-729-385-82	s	TRANSISTOR 2SB858
39		9-994-797-01	s	CABLE, VF
40		9-994-811-01	o	SPRING, PLATE
41		9-994-812-01	o	INSULATOR
42		9-994-813-01	o	LABEL, SWITCH
43		9-994-814-01	o	CASE, BOTTOM
44		9-994-815-01	o	HOLDER T, OUTSIDE
45		9-994-816-01	o	PLATE, NUT
46		9-994-817-01	o	MOLT
47		9-994-818-01	o	HOLDER B, OUTSIDE
48		9-994-819-01	o	PIN, LOCK
49		9-994-820-01	o	RING, SLIDE
50		9-994-821-01	o	NUT, PLATE, CASE
51		9-994-822-01	o	GUIDE, VF SLIDE
52		9-994-823-01	o	LABEL, SLIDE
53		9-994-824-01	o	STOPPER
54		9-994-825-01	o	RUBBER, STOPPER
55		9-994-826-01	o	STOPPER, PWB
56		9-994-827-01	o	COLLER
57		9-997-916-01	o	MIRROR
58		9-997-917-01	o	SPACER
59		9-997-918-01	o	RING, LOCK
60		9-997-919-01	o	HOLDER A, LENS
61		9-997-920-01	o	HOLDER B, LENS
62		9-997-921-01	o	RING, ADJUSTMENT
63		9-997-922-01	o	LID
64		9-997-923-01	s	EYECUP
65		9-997-924-01	o	RING, RUBBER
66		9-997-925-01	o	BALL, STEEL
67		3-680-417-01	s	LUPE B, VF
68		9-998-810-01	o	CASE, TOP
69		1-230-075-00	s	RES, VAR, METAL 2K "CONTR" "BRIGHT"
70		1-570-845-11	s	SWITCH, SLIDE "TALLY ON/OFF" "PEAKING ON/OFF"
71		9-994-802-01	s	DIODE SLH-56VT
72		1-589-127-11	o	LED BOARD

RESISTOR, CHIP

1/10W
0 - 3.3M (E12) +-5% 1/10W

Ref. No.	Part No.	SP	Description
	1-216-295-00	s	RES, CHIP 0 5% 1/10W
	1-216-298-00	s	RES, CHIP 2.2 5% 1/10W
	1-216-302-00	s	RES, CHIP 2.7 5% 1/10W
	1-216-304-00	s	RES, CHIP 3.3 5% 1/10W
	1-216-306-00	s	RES, CHIP 3.9 5% 1/10W
	1-216-308-00	s	RES, CHIP 4.7 5% 1/10W
	1-216-309-00	s	RES, CHIP 5.6 5% 1/10W
	1-216-311-00	s	RES, CHIP 6.8 5% 1/10W
	1-216-313-00	s	RES, CHIP 8.2 5% 1/10W
	1-216-001-00	s	RES, CHIP 10 5% 1/10W
	1-216-003-00	s	RES, CHIP 12 5% 1/10W
	1-216-005-00	s	RES, CHIP 15 5% 1/10W
	1-216-007-00	s	RES, CHIP 18 5% 1/10W
	1-216-009-00	s	RES, CHIP 22 5% 1/10W
	1-216-011-00	s	RES, CHIP 27 5% 1/10W
	1-216-013-00	s	RES, CHIP 33 5% 1/10W
	1-216-015-00	s	RES, CHIP 39 5% 1/10W
	1-216-017-00	s	RES, CHIP 47 5% 1/10W
	1-216-019-00	s	RES, CHIP 56 5% 1/10W
	1-216-021-00	s	RES, CHIP 68 5% 1/10W
	1-216-023-00	s	RES, CHIP 82 5% 1/10W
	1-216-025-00	s	RES, CHIP 100 5% 1/10W
	1-216-027-00	s	RES, CHIP 120 5% 1/10W
	1-216-029-00	s	RES, CHIP 150 5% 1/10W
	1-216-031-00	s	RES, CHIP 180 5% 1/10W
	1-216-033-00	s	RES, CHIP 220 5% 1/10W
	1-216-035-00	s	RES, CHIP 270 5% 1/10W
	1-216-037-00	s	RES, CHIP 330 5% 1/10W
	1-216-039-00	s	RES, CHIP 390 5% 1/10W
	1-216-041-00	s	RES, CHIP 470 5% 1/10W
	1-216-043-00	s	RES, CHIP 560 5% 1/10W
	1-216-045-00	s	RES, CHIP 680 5% 1/10W
	1-216-047-00	s	RES, CHIP 820 5% 1/10W
	1-216-049-00	s	RES, CHIP 1k 5% 1/10W
	1-216-051-00	s	RES, CHIP 1.2k 5% 1/10W
	1-216-053-00	s	RES, CHIP 1.5k 5% 1/10W
	1-216-055-00	s	RES, CHIP 1.8k 5% 1/10W
	1-216-057-00	s	RES, CHIP 2.2k 5% 1/10W
	1-216-059-00	s	RES, CHIP 2.7k 5% 1/10W
	1-216-061-00	s	RES, CHIP 3.3k 5% 1/10W
	1-216-063-00	s	RES, CHIP 3.9k 5% 1/10W
	1-216-065-00	s	RES, CHIP 4.7k 5% 1/10W
	1-216-067-00	s	RES, CHIP 5.6k 5% 1/10W
	1-216-069-00	s	RES, CHIP 6.8k 5% 1/10W
	1-216-071-00	s	RES, CHIP 8.2k 5% 1/10W
	1-216-073-00	s	RES, CHIP 10k 5% 1/10W
	1-216-075-00	s	RES, CHIP 12k 5% 1/10W
	1-216-077-00	s	RES, CHIP 15k 5% 1/10W
	1-216-079-00	s	RES, CHIP 18k 5% 1/10W
	1-216-081-00	s	RES, CHIP 22k 5% 1/10W
	1-216-083-00	s	RES, CHIP 27k 5% 1/10W
	1-216-085-00	s	RES, CHIP 33k 5% 1/10W
	1-216-087-00	s	RES, CHIP 39k 5% 1/10W
	1-216-089-00	s	RES, CHIP 47k 5% 1/10W
	1-216-091-00	s	RES, CHIP 56k 5% 1/10W
	1-216-093-00	s	RES, CHIP 68k 5% 1/10W
	1-216-095-00	s	RES, CHIP 82k 5% 1/10W
	1-216-097-00	s	RES, CHIP 100k 5% 1/10W
	1-216-099-00	s	RES, CHIP 120k 5% 1/10W
	1-216-101-00	s	RES, CHIP 150k 5% 1/10W
	1-216-103-00	s	RES, CHIP 180k 5% 1/10W
	1-216-105-00	s	RES, CHIP 220k 5% 1/10W
	1-216-107-00	s	RES, CHIP 270k 5% 1/10W
	1-216-109-00	s	RES, CHIP 330k 5% 1/10W
	1-216-111-00	s	RES, CHIP 390k 5% 1/10W
	1-216-113-00	s	RES, CHIP 470k 5% 1/10W
	1-216-115-00	s	RES, CHIP 560k 5% 1/10W
	1-216-117-00	s	RES, CHIP 680k 5% 1/10W
	1-216-119-00	s	RES, CHIP 820k 5% 1/10W
	1-216-121-00	s	RES, CHIP 1.0M 5% 1/10W
	1-216-123-00	s	RES, CHIP 1.2M 5% 1/10W
	1-216-125-00	s	RES, CHIP 1.5M 5% 1/10W
	1-216-127-00	s	RES, CHIP 1.8M 5% 1/10W
	1-216-129-00	s	RES, CHIP 2.2M 5% 1/10W
	1-216-131-00	s	RES, CHIP 2.7M 5% 1/10W
	1-216-133-00	s	RES, CHIP 3.3M 5% 1/10W

MAIN BOARD

Ref. No.	Part No.	SP	Description
	1-589-128-11	o	MOUNTED CIRCUIT BOARD "MAIN"
	9-994-794-01	s	CRT
C20	9-994-781-01	s	TANTALUM 47 16V
C21	1-163-038-11	s	CHIP CERAMIC 0.1 25V
C22	1-163-038-11	s	CHIP CERAMIC 0.1 25V
C23	1-126-157-11	s	ELECT 10 20% 16V
C24	1-124-464-11	s	ELECT 0.22 20% 50V
C26	9-994-780-01	s	P-P CONDENCER 0.0047
C28	1-124-438-11	s	ELECT 1 20% 50V
C29	1-124-584-11	s	ELECT 100 20% 10V
C30	1-131-347-00	s	TANTALUM 1 10% 35V
C31	1-126-157-11	s	ELECT 10 20% 16V
C32	1-163-133-11	s	CHIP CERAMIC 470PF 5% 50V
C33	1-126-157-11	s	ELECT 10 20% 16V
C34	1-126-162-11	s	ELECT 3.3 20% 50V
C35	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C36	1-124-455-00	s	ELECT 100 20% 16V
C37	9-994-777-01	s	ELECT 220 6.3V
C38	1-130-481-11	s	CAP,PE TEREPHTHALATE 0.0068 5% 50V
C40	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C43	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C44	9-994-782-01	s	TANTALUM 47 16V
C46	1-126-162-11	s	ELECT 3.3 20% 50V
C48	9-994-783-01	s	0.0056 100V
C49	9-994-778-01	s	ELECT 22 63V
C50	9-994-784-01	s	0.0015 1K
C51	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C52	9-994-779-01	s	ELECT 56 16V
C53	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C54	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C55	1-163-088-11	s	CHIP CERAMIC 0.1 25V
CN4	9-994-791-01	o	RECEPTACLE, 7P
CN7	9-994-792-01	o	RECEPTACLE, 3P
CN8	9-994-793-01	o	RECEPTACLE, 2P
D2	8-719-914-42	s	DA204K
D4	8-719-911-19	s	1SS119
D5	9-994-773-01	s	ERA15-06
D6	9-994-774-01	s	1SS136
D7	8-719-948-45	s	ERA22-08

Ref. No.	Part No.	SP	Description
HLC	1-459-823-11	s	COIL,HORIZONTAL LINEARITY
IC2	8-759-300-28	s	HA11423MP: HITACHI
IC3	8-759-100-94	s	μPC358G2:
Q10	8-729-881-23	s	2SC2812-L7
Q11	8-729-881-23	s	2SC2812-L7
Q12	8-729-100-76	s	2SA812
Q20	8-729-881-23	s	2SC2812-L7
Q21	9-994-771-01	s	2SD1220
Q22	8-729-119-00	s	2SK612
Q23	8-729-162-43	s	2SB624-BV3
R43	⚠1-216-109-11	s	CHIP 330K 5% 1/10W
R44	⚠1-216-083-11	s	CHIP 27K 5% 1/10W
R60	⚠1-216-057-11	s	CHIP 2.2K 5% 1/10W
R61	⚠1-216-057-11	s	CHIP 2.2K 5% 1/10W
R66	⚠9-994-785-01	s	10M
R67	⚠9-994-786-01	s	91K
R69	⚠1-216-081-11	s	CHIP 22K 5% 1/10W
R70	⚠1-216-079-11	s	CHIP 18K 5% 1/10W
R72	⚠1-216-081-11	s	CHIP 22K 5% 1/10W
R73	⚠1-216-081-11	s	CHIP 22K 5% 1/10W
RV10	9-994-787-01	s	5K
RV11	9-994-788-01	s	5K
RV12	9-994-789-01	s	200
RV13	9-994-790-01	s	500
RV20	⚠ 1-228-459-11	s	METAL 10K
RV21	⚠ 1-228-458-11	s	METAL 5K
T1	⚠ 1-439-419-11	s	FBT

SW BOARD

Ref. No.	Part No.	SP	Description
	1-589-129-11	o	MOUNTED CIRCUIT BOARD "SW" (J,UC)
	1-589-129-21	o	MOUNTED CIRCUIT BOARD "SW" (EK)
C1	1-124-438-11	s	ELECT 1 20% 50V
C3	1-124-584-11	s	ELECT 100 20% 10V
C4	1-124-584-11	s	ELECT 100 20% 10V
C5	1-126-154-11	s	ELECT 47 20% 6.3V
C6	1-124-438-11	s	ELECT 1 20% 50V
C7	1-124-462-11	s	ELECT 10 20% 16V
C8	1-163-113-11	s	CHIP CERAMIC 68PF 5% 50V
C9	1-163-105-11	s	CHIP CERAMIC 33PF 5% 50V
C10	1-163-015-11	s	CHIP CERAMIC 0.0033 10% 50V
C11	1-163-038-11	s	CHIP CERAMIC 0.1 25V
CN1	9-994-803-01	o	8P
CN2	9-994-804-01	o	3P
CN3	9-994-805-01	o	5P
CN4	9-994-806-01	o	7S
CN5	9-994-807-01	o	2P
CP	9-994-808-01	s	PROTECTORS ICP-N10(EK)
D1	8-719-914-43	s	DAN202K
IC1	⚠ 8-759-630-27	s	M5236ML: MITSUBISHI
L1	9-994-800-01	s	100μH
L2	9-994-801-01	s	47μH
LED1	9-994-802-01	s	SLH-56VT
Q2	8-729-881-23	s	2SC2812-L7
Q3	8-729-881-23	s	2SC2812-L7
Q4	8-729-881-23	s	2SC2812-L7
Q5	1-806-828-11	s	2SC2814
Q6	9-994-796-01	s	2SC3722K
Q7	9-994-796-01	s	2SC3722K
Q8	8-729-881-23	s	2SC2812-L7

Ref. No.	Part No.	SP	Description
R2	⚠ 9-994-799-01	s	CHIP 24K 5% 1/10W
R3	⚠ 1-216-064-11	s	CHIP 4.3K 5% 1/10W
RV1	⚠ 1-228-473-11	s	METAL 5K
RV2	1-230-075-11	s	CARBON 2K "CONTR"
RV3	1-228-475-11	s	METAL 20K
RV4	1-226-368-11	s	CARBON 10K "BRIGHT"
S1	1-570-845-11	s	SLIDE "PEAKING ON/OFF"
S2	1-570-845-11	s	SLIDE "TALLY ON/OFF"

LED BOARD

Ref. No.	Part No.	SP	Description
	1-589-127-11	o	MAUNTED CIRCUIT BOARD "LED"
	9-994-810-01	o	LED PWB
CN9	9-994-809-01	o	RECEPTACLE, 5P
LED2	8-719-800-25	s	TLR109A
LED3	8-719-800-25	s	TLR109A
LED4	8-719-800-25	s	TLR109A
LED5	8-719-800-19	s	TLO102A

FRAME

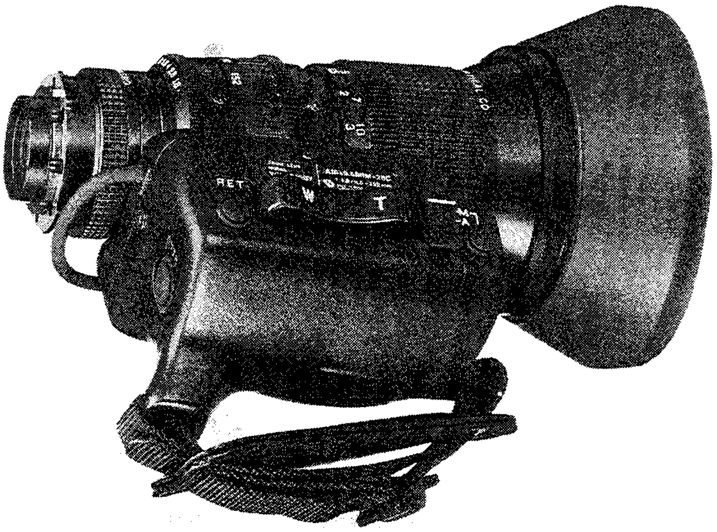
Ref. No.	Part No.	SP	Description
Q1	8-729-315-63	s	2SB856

PACKING MATERIAL AND ACCESSORIES

Ref. No.	Part No.	SP	Description
	3-166-610-01	o	CARTON, INDIVIDUAL(UC)
	3-166-612-01	o	CARTON, INDIVIDUAL(EK)
	3-699-152-01	o	CUSHION, UPPER
	3-699-153-03	o	CUSHION, LOWER
	3-701-627-01	o	BAG, POLY

ZOOM LENS

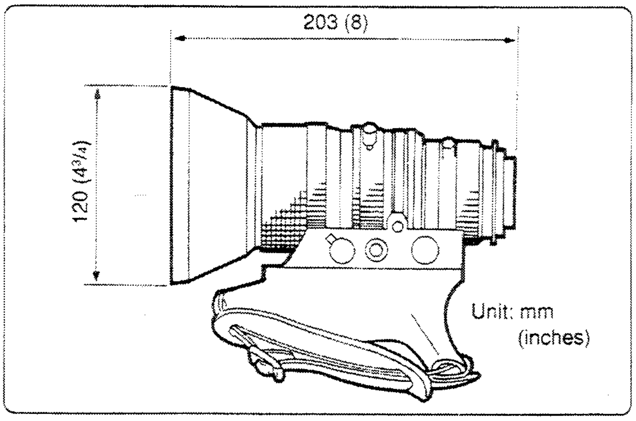
VCL-916BY



SPECIFICATIONS

Focal length	9.5 to 152 mm
Zoom	Manual and motorized, selectable Zooming ratio: 16×
Maximum aperture ratio	1:1.8
Iris control	Manual and auto, selectable 1.8 to 16 and C (closed)
Range of object field (at the distance of 0.95 m)	W (wide angle): 823 × 617 mm (32 1/2 × 24 3/8 inches) T (telephoto): 51 × 38 mm (2 1/8 × 1 1/2 inches)
Minimum object distance	0.95 m
Filter thread	77 mm dia., 0.75 pitch
Mount	Bayonet mount, 2/3 inch
Weight	About 1.4 kg (3 lb 1 oz) without lens hood
Supplied accesory	Operating instructions (1)

Dimensions

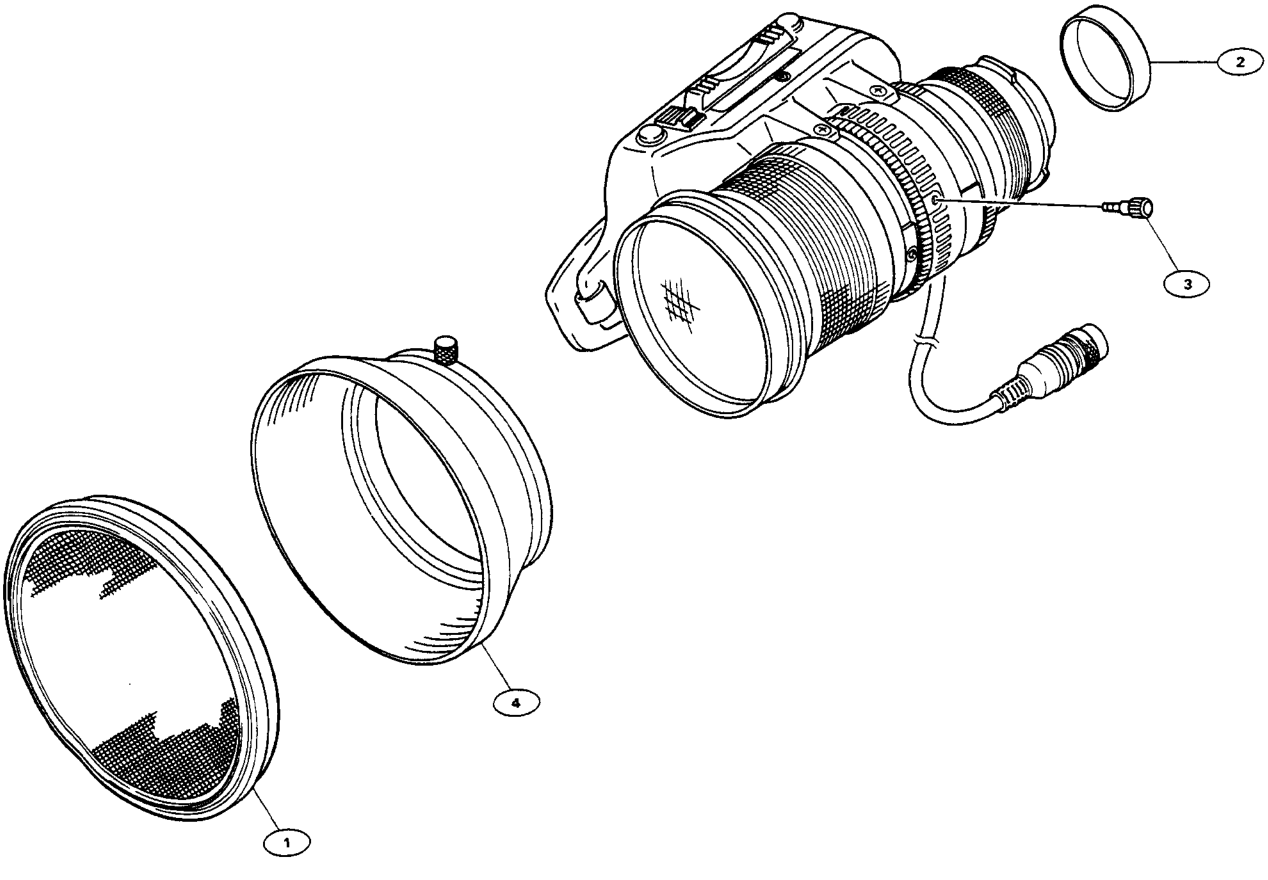


Design and specifications are subject to change without notice.

SONY®

SERVICE MANUAL

No.	Part No.	SP	Description
1	3-707-245-01	o	CAP, HOOD
2	3-707-246-01	o	CAP, DUST
3	3-707-247-01	o	LEVER, ZOOM
4	3-708-171-01	o	HOOD, LENS



TRIPOD ATTACHMENT

SPECIFICATIONS

Dimensions	Approx. 282 x 27 x 80 mm (w/h/d) (11 ${}^{1}/_{8}$ x 1 ${}^{1}/_{8}$ x 3 ${}^{1}/_{4}$ inches) without V-wedge.
Weight	Approx. 0.9 kg (2 lb)

Design and specifications subject to change without notice.

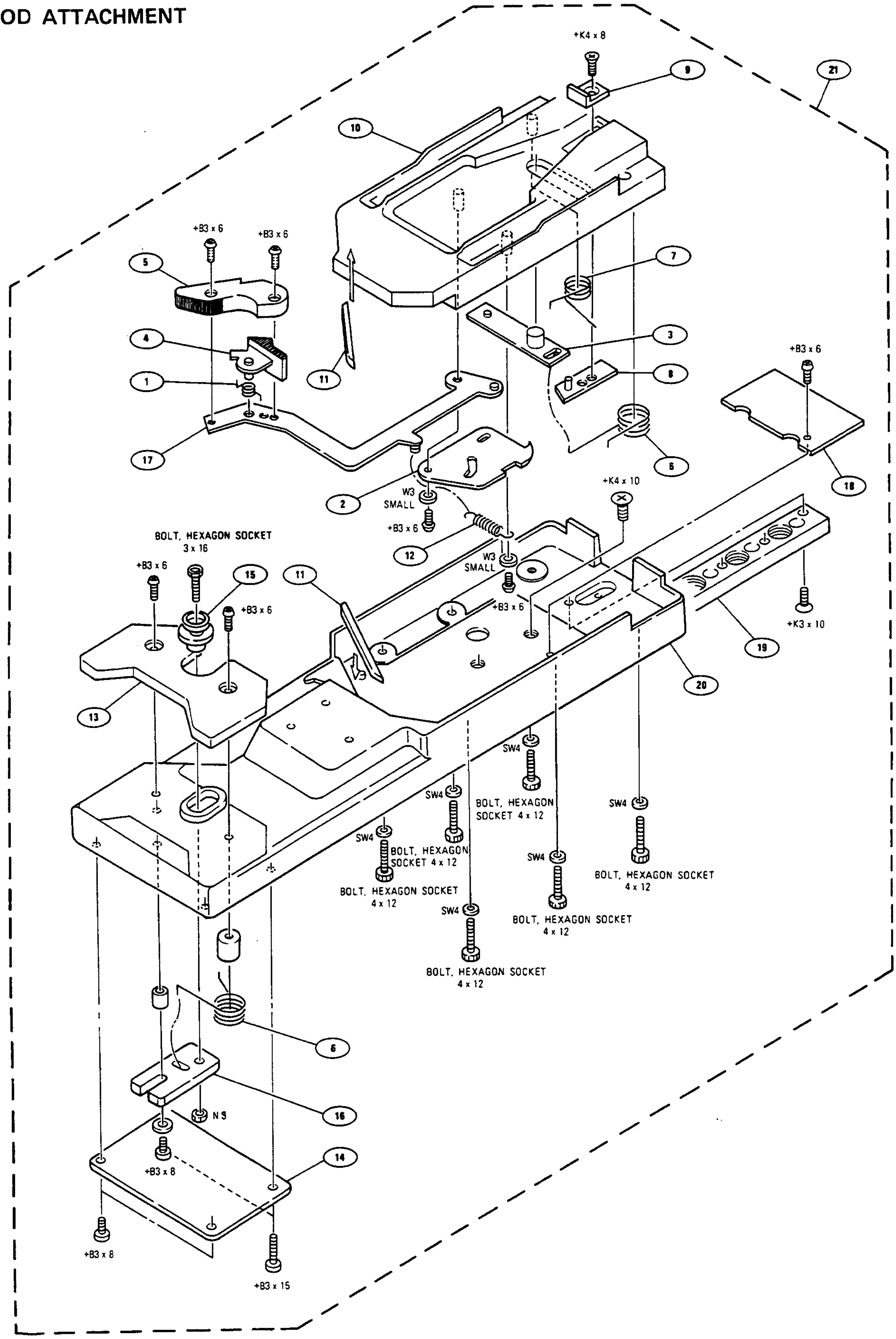
SONY®

SERVICE MANUAL

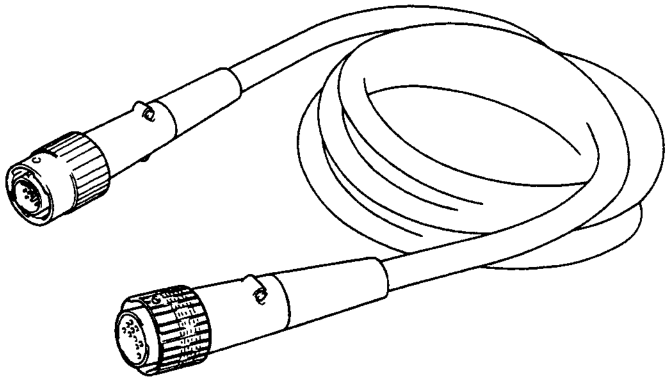
EXPLODED VIEW

No.	Parts No.	SP	Description
1	2-381-631-01	o	SPRING
2	2-381-632-01	o	ARM, LOCKER
3	2-381-633-01	o	SOLENOID
4	2-381-635-01	o	LEVER, LOCK
5	2-381-636-01	o	KNOB
6	2-381-637-01	o	SPRING
7	2-381-638-01	o	SPRING
8	2-381-640-01	o	DOG
9	2-381-641-01	o	COLLAR
10	2-381-642-02	o	MOUNT
11	2-381-648-01	o	INSULATOR, KNOB
12	2-381-652-01	o	SPRING, TENSION
13	3-678-704-00	o	SPACER
14	3-720-906-01	o	LID (S), REAR
15	3-720-907-01	o	PIN (S), REAR
16	3-720-908-01	o	TABLE (S), PIN, REAR
17	3-720-909-01	o	KNOB, CRANK
18	3-720-910-01	o	SHEET, SLIDE
19	3-720-911-01	o	BASE, TRIPOD FITTING SCREW
20	3-720-912-01	o	FRAME (S)
21	OPTIONAL ACCESSORY: TRIPOD ATTACHMENT "VCT-14"		

TRIPOD ATTACHMENT


+K4 x 8
9
21
10
+B3 x 6
+B3 x 6
5
7
4
3
11
1
8
+B3 x 6
17
6
18
2
W3
SMALL
+B3 x 6
+K4 x 10
12
W3
SMALL
+B3 x 6
BOLT, HEXAGON SOCKET
3 x 16
+B3 x 6
15
11
+B3 x 6
19
+K3 x 10
20
13
SW4
SW4
BOLT, HEXAGON
SOCKET 4 x 12
SW4
SW4
BOLT, HEXAGON
SOCKET 4 x 12
BOLT, HEXAGON SOCKET
4 x 12
SW4
BOLT, HEXAGON SOCKET
4 x 12
SW4
BOLT, HEXAGON SOCKET
4 x 12
BOLT, HEXAGON SOCKET
4 x 12
6
16
N3
14
+B3 x 8
+B3 x 8
+B3 x 15

CAMERA CABLE



SONY®

SERVICE MANUAL

EXPLODED VIEW

No.	Parts No.	SP	Description
1	1-508-929-00	s	CONNECTOR, 14P MALE
2	1-564-184-00	s	CONNECTOR, 26P FEMALE